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Army Research Laboratory

User's Manual
Position Data Analysis Job Aid
(PDAT-JA) Prototype Software
(Version 2.0)

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The position data analysis job aid (PDAT-JA) software is a product of research initiated under the Systems Research Laboratory of the Army Research Institute (ARI) and completed under the U.S. Army Research Laboratory (ARL). It was developed as part of the military occupational specialty (MOS) restructuring research and development program. First released in December 1990, the prototype software has been enhanced with additional features in response to user requests and is being released as Version 2.0. This user's manual, accompanying the Version 2.0 release, has been prepared to provide instruction for the use of PDAT-JA by Army personnel, proponent analysts, and others who perform position data analysis as part of the Army's MOS restructuring process. The manual provides procedures for installing PDAT-JA on personal computers and instructions for importing MOS authorizations data, analyzing and editing these data to represent new MOS structures, and producing reports describing the environmental, structural, and deployment characteristics of the MOSs being studied. The PDAT-JA software can be obtained from the Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22304-6145.

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POSITION DATA ANALYSIS JOB AID (PDAT-JA) PROTOTYPE SOFTWARE
(VERSION 2.0)

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August 1993

The Systems Research Laboratory of the U.S. Army Research Institute
(ARI), referenced in this report, has been reorganized as the Human
Research and Engineering Directorate of the U.S. Army Research
Laboratory, effective 1 October 1992. This program and facility
described here were completed before the organizational change.

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U.S. ARMY RESEARCH LABORATORY

Aberdeen Proving Ground, Maryland

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ACRONYMS

AGM	average grade matrix
ARI	Army Research Institute
ARL	Army Research Laboratory
ASI	additional skill identifier
AUTH	authorizations
CMD	command
CONUS	continental United States
CPI	characters per inch
CPU	central processing unit
DOS	disk operating system
GSA	grade structure analysis
HQDA	Headquarters Department of the Army
Ln	line
MACOM	Major Army Command
Mbytes	megabytes
MOD	modify field
MOS	military occupational specialty
MPCPMAD	modified personal computer PMAD
MPCTAADS	modified personal computer TAADS
MPS	MOS profiling sub-system
OCONUS	outside the continental United States
PARA	paragraph
PCPMAD	personal computer PMAD
PCTAADS	personal computer TAADS
PDAT-JA	position data analysis job aid
PMAD	personnel management authorization document
RAM	random access memory
REQ	required
SDF	standard data format
SGA	standards of grade authorization
SIMOS	space-imbalanced MOS

SQI	specialty qualification code
SRC	source requirements code
TAADS	the Army's authorization and documentation system
TDA	table of distribution and allowance
TOE	table of organization and equipment
TSR	terminate and stay resident
UIC	unit identification code
USER_ID	user identification

EXECUTIVE SUMMARY

Research Requirements

In 1988, the U.S. Army Signal Center and Fort Gordon (USASC&FG) requested that a focused examination of military occupational specialty (MOS) restructuring issues existing within the Army's Signal Branch be initiated. Since that time, the U.S. Army Personnel Integration Center (USAPIC) has asked that any methods developed be applicable Army-wide.

In evaluating MOS restructuring options and subsequently preparing the personnel action(s) to implement the chosen option, one phase of activity is a form of manpower constraints analysis known as position data analysis. Largely performed manually using the Army authorization document system (TAADS) data base, it is a very difficult and time-consuming process that is error prone. An automated job aid to facilitate this activity would yield considerable research and operational benefits.

Procedure

Several analyses were performed to identify desirable functions and output to support the analyst, and to determine technically feasible options for a position data analysis job aid (PDAT-JA). A demonstration of what the input and output display screens would look like was developed and shown to potential users. Based on user feedback, the first prototype software was developed and demonstrations provided to users. It was then installed and tested at USASC&FG, the U.S. Army Ordnance Center, the U.S Army Engineer School, and at USAPIC. Based on further feedback, this version, PDAT-JA 2.0, was developed. It has been extensively tested by USAPIC.

Findings

The success achieved in automating this basic activity bodes well for the possibility of developing automated support for analysis methods developed under this research program. The user test results indicate that the operation of the PDAT-JA is user friendly and that it could reduce the time required to perform position data analysis by as much as 60%. As expected of a prototype, this version would benefit from further development to enhance the analyst's capability.

Use of Findings

PDAT-JA can be used by all Army personnel proponent offices to evaluate MOS restructuring alternatives and to implement the selected personnel actions. These offices are, in addition, responsible for at least annual evaluations of the health of the MOSs for which they are responsible. They rarely have the resources to do this. With the time savings afforded by PDAT-JA and, if necessary, the acquisition of computer hardware with the capacity to handle the larger MOSs, they will now be able to do this. They will also be able to easily provide additional useful inputs to the target audience descriptions needed as a part of new systems acquisition.

USER'S MANUAL
POSITION DATA ANALYSIS JOB AID (PDAT-JA) PROTOTYPE SOFTWARE
(VERSION 2.0)

INTRODUCTION

The position data analysis job aid (PDAT-JA) is a prototype software system designed to support the personnel proponent analyst in performing the position data analysis phase of military occupational specialty (MOS) restructuring. PDAT-JA provides personal computer (PC)-based analytical tools with the capability to manipulate the Army's authorization and documents system (TAADS) data, compare these data to personnel management authorization document (PMAD) data, and quickly generate reports about MOS environmental, structural, and deployment data.

PDAT-JA also provides the analyst with the capability to revise TAADS and PMAD data through computer-generated worksheets, produce reports, and make comparisons between original TAADS and PMAD data and the data modified by the analyst.

Background

PDAT-JA was developed for the Systems Research Laboratory of the U.S. Army Research Institute (ARI) (now under the U.S. Army Research Laboratory [ARL]) to demonstrate the operational feasibility of automating segments of MOS restructuring performed by the personnel proponent. The software was originally released for demonstration purposes in December 1990 (Version 1.0). Based on its initial use, modifications were made to improve its data-editing capabilities. As a result, a revised version was released for Army use in October 1991 (Version 1.2). The version of PDAT-JA supported by this user's manual incorporates major software modifications allowing as many as 10 MOSs to be analyzed and providing support to compare TAADS and PMAD authorization data (Version 2.0).

In its present form, the software provides capabilities such as (a) automated MOS data reports generation, (b) PC-based editing and annotation of TAADS resulting from application of standards of grade authorization (SGA) tables, (c) PC-based editing and annotation of PMAD data, (d) automated comparison of TAADS and PMAD data, and (e) automated application of the Army's average grade matrix (AGM). Until the development of PDAT-JA, all these difficult and time-consuming analysis steps were performed manually by most analysts.

This demonstration software was developed using the FOXPro data base management system and dGE graphic display system and is distributed as a run-time module. PDAT-JA was designed to support the simultaneous data base downloading, analysis, and revision of as many as 10 enlisted MOSs, provided that sufficient computer storage capacity is available. Presently, the software will accept TAADS and PMAD data for active Army components only. Based on the success of the prototype software, an operational system can be developed with the capability to support analysis of officer, warrant officer, civilian, and reserve component data as well.

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The Army standard procurement PC normally contains only 20 megabytes (Mbytes) of hard disk storage capacity. With this constraint, PDAT-JA can be used to perform position data analysis for as many as 10 MOSs comprising a total of approximately 5,000 authorizations. Proponent agencies that have more storage capacity on their systems (e.g., larger hard disk drives or other mass storage devices such as Bernoulli boxes) may download data bases that are considerably bigger. The software, which is not constrained in terms of data base size, can be obtained from the Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22304-6145.

MINIMUM PC CONFIGURATION

The following is a list of the minimum hardware requirements needed to successfully install and use PDAT-JA.

CPU:	8088 (IBM XT or XT compatible)
Operating system:	MS-DOS or PC-DOS 3.1 or higher
RAM memory:	640K required
Floppy drives:	One 360K required
Hard drive:	10 to 20 Mbytes or more free space required depending upon data base sizes
Display system:	Monochrome graphics
Printer:	Any printer with Epson compatibility can be used, but the printer must have an IBM graphics character set.

WARNING: Terminate and stay resident (TSR) or memory-resident programs should not be run concurrently with PDAT-JA.

INSTALLATION AND STARTING PROCEDURES

Installation

PDAT-JA software is supplied to the user either on 5-1/4-inch double sided, double density (DS/DD) diskettes or 3-1/2-inch DS/DD diskettes. To install the PDAT-JA software, use the following procedures:

1. Turn on computer and allow it to boot normally.

2. Place INSTALL DISK No. 1 in drive A:

3. At the C:> prompt, enter A: <Press the Enter Key>

4. Type PINSTALL <Press the Enter Key>

The INSTALL program will begin running. The PDAT-JA Software Installation and Update Program menu screen will appear. Select "Install PDAT-JA Software" and press the Enter key.

The following message will appear:

Continue Install? (Y/N). Type Y.

The INSTALL program will query you for the hard drive, typically C:.
The PDAT-JA software will be installed in a subdirectory called "PDAT2" on the
designated drive. As the installation progresses, the system will PAUSE and
ask you to insert any additional disks required for implementation. Simply
follow the on-screen directions and insert the remaining disks, if any, in
accordance with the instructions.

After the PDAT-JA software has been copied onto the hard drive, the
installation program will check the FILES statement in your CONFIG.SYS file
and will propose, if necessary, changing the statement to FILES=40. Should
you make this change, you must reboot the computer to allow the modifications
made in CONFIG.SYS to be read into memory.

Starting PDAT-JA

Start PDAT-JA using the following command:

PD2 <Press the Enter key>

If the host environment contains the PATH=C:\ phrase, then the user can
always start PDAT-JA using the PD2 command no matter which subdirectory or
disk partition is the current default directory. If not, invoke the following
command:

C:\ <Press the Enter Key>

Then start PDAT-JA by typing the PD2 command and pressing the Enter key.

When invoked, PD2 changes the directory to PDAT2 and then runs
TESTVID.COM, which tests the host video display adapter to determine display
attribute, loads an appropriate memory-resident graphics driver for that
display, and then loads the FOXPro run-time module and the PDAT-JA program.

When PDAT-JA program is exited, the display video driver is released
from its memory-resident state and that memory is free for use by other
programs.

A VIEW FOR THE ANALYST

PDAT-JA is designed to provide the capability to manipulate TAADS and
PMAD data in an automated PC environment. PDAT-JA provides the capability to
revise TAADS and PMAD data based on user input into on-screen worksheets and
to make comparisons between original MOS TAADS and PMAD data and the data
modified by the user. The analyst can then quickly obtain and generate
reports about baseline and revised environmental, structural, and deployment
data for use in restructuring MOSs.

Basic Concepts

To work with PDAT-JA, the analyst must understand three basic concepts: (1) the reference data base, (2) the worksheet, and (3) the MOS profiling analysis.

Reference Data Bases

PDAT-JA can have two types of reference data bases: one type contains TAADS data and the other contains PMAD data. The PCTAADS reference data base contains the TAADS data that have been downloaded and conditioned to operate in the PDAT-JA environment. The PCPMAD reference data base contains original PMAD data that have been processed in a similar fashion for use by PDAT-JA. These data cannot be modified and remain constant until purged from the system and replaced with new reference data bases.

Worksheets

The worksheet is the analyst's window to the reference data base. Each time the analyst creates a worksheet, there is an exact replica of the reference data base. The analyst may alter these data by editing certain data fields. For instance, the following TAADS data fields can be changed in the worksheet via the edit mode provided by PDAT-JA: MOS, GRADE, REQ, AUTH, and so forth. In the case of PMAD, the analyst can change GRADE and AUTH at the UIC level.

MOS Profiling Analysis

To produce summary reports, PDAT-JA must analyze or process the reference and worksheet data. PDAT-JA tabulates data-building analysis files which are then used to print various reports supporting the position data analysis performed by the user.

Reports

Eleven reports can be produced by PDAT-JA. Samples of these reports are given in Appendix A.

Summary Report of MOS Authorizations by Grade

This report provides general information about the size and structure of a given MOS. The report contains the grade structure of the MOS (E3, E4, E5, etc.), the number of authorizations for each grade cell, and the total number of MOS authorizations. The summary of MOS authorizations by grade is used to provide MOS data input to grade structure analysis (GSA), which will compare the PDAT-JA provided MOS structure with the AGM.

Summary Report of Additional Skill Identifier (ASI) Authorizations by Grade

The ASI summary report provides the total number of MOS authorizations by grade which require additional skills beyond those required

by the MOS.[1] This report provides the analyst with a listing of the ASIs associated with the MOS, and the total number of MOS authorizations by grade affiliated with each ASI.

The ASI summary report is used by the analyst to determine how many ASIs are associated with the MOS, what grade structures are related with each ASI what percentage of the MOS each ASI represents, and what percentage of the total MOS requires additional skills. Knowledge of these factors is essent l when making decisions pertaining to SGA development, analyzing training, or making recommendations in terms of personnel use.

Summary Report of Specialty Qualification Identifier (SQI) Authorizations by Grade

The purpose of this report is to provide the analyst with the number of MOS authorizations by grade that are associated with special qualifications. This report consists of a listing of SQIs associated with the MOS and a summary by grade of the number of MOS positions in each SQI.

The SQI summary report is used by the analyst in much the same way as the ASI report is used. In this case, however, the analyst requires knowledge of SQI structure information. This information is also key when making decisions in terms of SGA development and personnel use. An SQI denotes special qualifications such as non-career recruiter, instructor, first sergeant, installer, and ranger, among others.

In some instances, the grade structure of a particular SQI is centrally managed by Headquarters Department of the Army (HQDA), Training and Doctrine Command, or a proponent school. A good example of a centrally managed SQI is the SQI "H" or Instructor. This means that an Army-common SGA already exists for instructors, and the analyst normally cannot develop or change a grade structure of any position associated with the SQI. The analyst must, however, incorporate the grade structure associated with instructors within the SGA developed for the MOS.

Summary Report of Major Army Command (MACOM) MOS Authorizations by Grade

The purpose of this report is to provide the analyst with information about how the MOS is deployed throughout the Army. This report provides a listing of the command code for each MACOM and an aggregate by grade of the MOS authorizations contained in each.

The MACOM summary report is used by the analyst to calculate the total number of MOS authorizations in each MACOM, the grade structure associated with the MOS in each MACOM, and what percentage of the MOS is deployed in each MACOM. MACOM information may provide the analyst with some insight into space imbalanced MOS (SIMOS) implications of the MOS's deployment as well as possible SGA implications.

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[1]In some few instances, TAADS uses the language identification code (LIC) field to show a second ASI for a position. PDAT-JA does not count these second ASIs in its reporting functions nor does it display these second ASIs in its editing screens.

Summary Report of MOS, Table of Organization and Equipment (TOE) versus Table of Distribution and Allowance (TDA) by Grade

This report provides the analyst with an overview of the MOS's deployment (e.g., field maneuver units versus fixed facilities) as well as possible environmental considerations based on where the MOS positions (in TOE) would be located on the battlefield. This report first provides a listing of standard requirement codes (SRC), which are basically the same as TOE numbers, and the total by grade of the authorized MOS positions in each. Next, the report provides a summary of the total by grade of all MOS positions authorized in TOE and then provides a summary of MOS positions authorized in TDA.

The report of MOSs in TOE versus TDA is employed by the analyst to determine what percentage of the MOS occurs in TOE, in what type of TOE the positions occur (combat, combat support, or combat service support), what percentage of the MOS occurs in TDA, and what grade structures are associated with each. Knowledge of TOE versus TDA information is crucial to developing an SGA that provides a balanced grade structure for both TOE and TDA.

The grade structure in TOE is primarily in the lower grades (E3 through E6). The reason for this is that TOE elements are usually smaller than elements in TDA; therefore, a lower grade structure exists. Conversely, in many instances, the duty requirements of TDA positions dictate a higher skill level because of mission complexity. Some examples of positions requiring higher skills are instructors, principal NCO positions in major headquarters elements, and positions in depot-level maintenance facilities.

Summary Report of MOS Authorizations, Continental United States (CONUS) versus Outside of Continental United States (OCONUS) by Grade
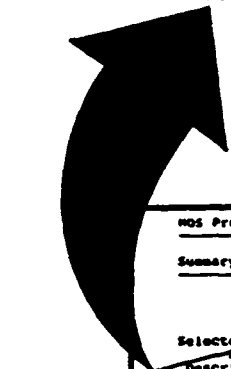
The purpose of the CONUS versus OCONUS report is to provide the analyst with data in support of interpreting the SIMOS implications of an MOS. The report provides a listing of MOS authorizations summarized by grade for both CONUS and OCONUS authorizations. This report is used by the analyst to determine how much of the MOS is located in OCONUS units as opposed to the number located in CONUS units. As defined in HQDA (1988), an MOS is considered SIMOS when 55% or more of its authorizations are OCONUS. With the data provided by this SIMOS summary report, the analyst can quickly ascertain if an MOS is space imbalanced.

MOS Profile Status Report

The purpose of the MOS profile status report is to provide the analyst with an overview of the MOS's status based upon the output generated from the MOS summary reports. The MOS profile status report provides an evaluation of the output summary reports and provides a code to annotate the status of the MOS in terms of each report category along with a narrative description of any impact the category may have on the MOS. Table 1 shows the codes used by PDAT-JA to annotate the status of each report category.

Table 1

Profile Status Report Codes

---

0   Category meets all policy requirements

1   Category may cause regulatory or policy impact

2   Category contains serious regulatory or policy discrepancy

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MOS PROFILE STATUS REPORT

MOS Profile Status Report for Selected MOSs   Page 1

Summary of ASI Authorizations for MOSs

            Date: 11/07/90
            User: RJS
Selected MOSs: 25S 29M 31Y
            Source: RC014990
Description: Army supplied data containing MOS's 25S, 29M, 31Y

PROFILE STATUS REPORT CODES

Level of Concern:
    0 or not shown - Category meets all policy requirements.
    1   - Category may cause regulatory or policy impact.
    2   - Category contains serious regulatory or policy discrepancy.

MOS	ASI	Concern Level	Reason
25S	J8	2	<20 pos. Validate ASI need & confirm <20 weeks training
29M	06	1	<50 pos. Validate ASI need & confirm <20 weeks training
31Y	06	2	<20 pos. Validate ASI need & confirm <20 weeks training
31Y	F2	2	<20 pos. Validate ASI need & confirm <20 weeks training
31Y	J7	2	<20 pos. Validate ASI need & confirm <20 weeks training

PDAT-JA generates the MOS profile status report through the use of preprogrammed rules developed for each summary report category. The rules are developed from HQDA policy and general rules of thumb used by analysts when performing MOS restructure analysis. Following is a breakdown of each summary report category and the rules used to support PDAT-JA's evaluation.

PDAT-JA evaluates the summary report of ASI authorizations by grade output by using three rules: (1) for ASIs that constitute more than 50% of an MOS, consideration will be given to either including the ASI requirements within the MOS or creating a new MOS, (2) each ASI should have at least 20 authorizations unless the ASI training is 20 or more weeks, and (3) the life span for ASI Y1 will be no longer than 3 years.

The rule used by PDAT-JA to evaluate SQI authorizations by grade is "Authorized positions associated with SQI of 'H' for instructor will normally be graded in accordance with (IAW) the standards of grade authorization for instructors in HQDA (1989)."

TOE versus TDA MOS authorizations are evaluated using a rule of thumb to ensure that issues concerning women in the Army are addressed. The rule is "MOSs comprised of 50% or more combat probability code 1 (P1) positions are flagged. MOSs comprised of less than 50% P1 positions should be considered for identification as being open to both male and female soldiers."

The final report to be evaluated by PDAT-JA is the summary report of MOS authorizations CONUS versus OCONUS. For this evaluation, the major rule is any MOS with more than 55% of its authorizations OCONUS is considered SIMOS.

PCTAADS and MPCTAADS Comparative Report

The PCTAADS and MPCTAADS comparative report presents the original PCTAADS data base information and that which differs in a selected worksheet on a paragraph and line basis for any paragraph and line that is changed by the analyst on the worksheet. When the report is requested, the system compares the original input data to the data contained in the selected worksheet and prints the paragraphs and lines that differ.

PMAD and PMADWS Comparative Report

The PMAD and PMADWS comparative report is similar to the PCTAADS comparative report in that it lists worksheet data that have been changed from the original data, except in this case, the data presented are from PMAD. The report presents a UIC-by-UIC comparison for any authorizations at the UIC level that have been changed by the analyst.

PMAD and TAADS Comparative Report

The PMAD and TAADS Comparative Report lists PMAD and TAADS data that do not match at the UIC level. The report identifies all UICs for which TAADS authorizations data do not appear in the PMAD data; all UICs for which there are PMAD authorizations data but no corresponding TAADS UIC data; as well as, all UICs in which the TAADS and PMAD authorizations data do not match.

Data Base or Worksheet Printouts

The purpose of the data base printouts is to provide the analyst with a copy of the data contained in the data base. This report can be generated from either PCTAADS (original input data) or MPCTAADS (worksheet data), in which case, selected MOS requirements and authorizations are subtotaled by paragraph, UIC, and MACOM and totaled at the end of the report. The report can also be produced for PCPMAD or PCPMADWS, in which case, authorizations data are provided at the UIC level and totaled at the end of the report.

PDAT-JA Worksheets

PDAT-JA can be used to create worksheets for TAADS and PMAD data, respectively. A worksheet, when initially created, is an exact replica of its reference data base. However, data in the worksheet may be changed by the analyst to record the results of performing position data analysis.

The purpose of the MPCTAADS worksheet is to support the MOS analyst with data developed through the application of the existing SGA (if applicable) to the MOS structure in the original TAADS data. Application of the current SGA to the worksheet is performed to create a baseline MOS data file. This procedure is necessary to ensure that any MOS structural problems are not a result of misapplication of currently published SGA guidance. Often, MOS restructuring is triggered by structural problems that may be corrected through proper application of the existing SGA.

Worksheet data files may also be created by applying a proposed SGA developed by the analyst to the worksheet. Once the analyst has finished changing the worksheet, then all reports can be run against the new data in the same manner they are run against the original TAADS data.

MPCPMAD worksheets may also be created from PMAD data entered into the PDAT-JA data base. These worksheets may be used to modify the PMAD data to reflect changes that the analyst needs for purposes of the position data analysis.

In either case, whether involving TAADS or PMAD, the worksheets provide a means to modify the original input data without changing the respective reference data bases.

Grade Structure Analysis (GSA)

The purpose of GSA is to assist the analyst in performing grade structure analysis by supporting the assessment of career progression and stability of an existing MOS structure. GSA achieves this by incorporating the AGM into a computer-based software application. Since AGM is the basis for GSA, the matrix is discussed first, and then an overview of GSA is presented.

AGM is a table reflecting a list of grade ranges (E3 through E9, E3 through E8, etc.). The grade ranges are broken down by grade cells associated with each grade range. The value of each grade cell within a range is expressed in a percentage of total MOS authorizations.

AGM is used by the analyst to help determine if an MOS restructure is required. To make this determination, the current MOS grade structure is compared to a structure produced through application of the AGM. This procedure is performed by the MOS analyst to judge if the percentage of each MOS grade cell falls within the AGM constraints. A variance of ±2% is acceptable at each grade cell. If constraints are met, a restructure in terms of promotion potential and career progression is not required. However, if the constraints are not met, the MOS should be restructured to conform as closely as possible to the structure produced through application of the matrix.

AGM should be used as a guide only. Restructuring an MOS should be based on the skill level needs and mission requirements of each position where the MOS occurs. The matrix provides an "ideal" structure that optimizes promotion potential and stability within Army MOSs in general. The matrix does not, however, address mission or skill level requirements unique to an individual MOS.

GSA is designed to provide the analyst with an automated tool that will perform all the computation functions required in applying the AGM. Additionally, GSA operates with the same logic and flow process that the analyst would use when applying the AGM manually.

Comparison between the "ideal" structure and the current structure is also made more efficient by GSA. When done manually, this step of the analysis process requires the analyst to perform calculations to assess the difference between the two structures. The automated GSA, however, requires that the analyst only input the current MOS authorizations by grade; the subsystem will then compute the delta between the AGM and current structures.

GSA provides the analyst with upper and lower boundaries. This function is automatic and requires no input from the analyst. Once all data have been entered into the spreadsheet for a particular grade range, the subsystem will produce the boundaries.

The cross-check capability is built in as a quality control measure. As all grade cell formulas are based on the AGM, they are expressed in percentages of whole numbers. The subsystem is designed to round the product of these formulas to the nearest whole number. Therefore, the totals may be affected by rounding. GSA will recognize which products are affected by rounding and will highlight them so the analyst can make adjustments.

GSA also provides graphic displays of how closely the current structure compares to the AGM structure. One graph is a clustered bar chart that provides a representation of how the current grade structure generally compares to the "ideal" structure and provides the delta for each grade cell.

A second graph depicts the difference ("delta") between the AGM and the current structure as a percentage of the AGM. Since the vertical (Y) axis is calibrated in percentage points, it is easy to determine the upper and lower boundaries and whether the authorizations for each grade cell of the current MOS falls within the upper or lower 2% allowable deviation boundaries. This graph serves as a quick reference to compare the actual structure in relation to the prescribed upper and lower 2% boundaries.

EQUIPMENT REQUIREMENTS AND SOFTWARE FILES

Equipment Requirements

CPU:	8088, 80286, 80386, or 80486 (80386 or 80486 preferred)
Math coprocessor:	8087, 80287, 80387 (not required, but speeds program execution about 2.5 times)
Operating system:	MS-DOS or PC-DOS 3.1 or higher (MS-DOS 3.3 preferred)
RAM memory:	640K required
EMS memory:	None required (as many as 16 Mbytes LIM 4.0 or 64 kilobytes LIM 3.2 expanded memory recommended for increased speed)
Floppy drives:	One required (1.2-Mbyte or 1.4-Mbyte capacity recommended)
Hard drive:	18 to 20 Mbytes or more free space required, depending upon input data base sizes.
Display system:	Monochrome graphics (MGA), color graphics (CGA), enhanced graphics (EGA), video array graphics (VGA) or original IBM monochrome display adapter (MDA) and display (VGA color or monochrome graphics recommended for high resolution graphics)*
Printer:	Epson MX100, FX285, FX286, or Hewlett-Packard LaserJet. Printers with Epson compatibility can be used, but printer must have IBM graphics character set.* (HP LaserJet recommended for graphic report output)

WARNING: TSR or memory-resident programs should not be run concurrently with PDAT-JA.

* Note. Using a display adapter which does not support a graphics mode precludes the ability to print GSA bar graphs. Similarly, a printer without IBM graphics capability will be unable to print GSA bar graphs.

Software Files

During installation, the subdirectory PDAT2 is created. All files for PDAT-JA are located within this directory except for the batch file, PD2.BAT, located on the root directory of drive C:. Filenames are as follow:

```
FOXPRORT.EXE      FOXPro run-time executive file
FOXPRORT.OVL      FOXPro run-time overlay
FOXPRORT.RSC      FOXPro run-time resource file
FOXUSER.DBF       FOXPro data base created during use
FOXUSER.FPT       FOXPro memo fields file created during use
DGE*.COM          Graphics to FOXpro interface
DGE.BIN           Binary program to enable dGE functions from FOXPro
DGE*.*            dGE fonts for graphic screens and graphs
TESTVID.COM       dGE graphics board attribute tester
PDAT-JA.FXP       PDAT-JA compiled program file
*.FRX             PDAT-JA compiled report form file
PDATHELP.DBF      PDAT-JA help data base file
PDATHELP.FPT      PDAT-JA help memo fields file
AGD.DBF           Average Grade Matrix data base table
TAADS.DBF         Standard format TAADS data base file
PMAD.DBF          Standard format PMAD data base
MPS.DBF           Standard format MPS analysis data base file
MPSTOT.DBF        Standard format MPS analysis data base file
PIMPORT.DBF       Standard format input data base file
UIC.*             Standard format TAADS analysis data base files
PUIC.*            Standard format PMAD analysis data base files
PDAT.DBF          Data library data base
PDAT.IDX          Data library index file
REPORT*.*         Holding files for text report displays
MPSREP*.*         Holding files for MOS profile report
GSASPRED.DBF      Holding file for GSA analysis
*.MEM             PDAT-JA memory variable files
*.DBF             Data and analysis data base files
*.IDX             Related index files
MPSWSxxx.*   TAADS worksheet created by user xxx
PMDWSxxx.*   PMAD worksheet created by user xxx
```

PDAT-JA Storage Capacity Requirements

    Hard drive storage capacity requirements are based on the number of MOSs
being analyzed, the size of the input data bases (TAADS and PMAD), and the
number of worksheets created by the analyst. Following are some of the
considerations that determine the actual storage requirement:

    1. Each data base imported by PDAT-JA uses approximately the same
storage size as its input size.

    2. The total size of all index files generated by PDAT-JA for the input
data base is about equal to the input data base.

    3. Each MPS worksheet file created is the same size as the input data
base.

    4. The total size of all analysis files is about equal to the input
data base.

    In addition to these requirements, PDAT-JA needs empty space on the hard
drive equal to about 1-1/2 times the largest input data base for file
manipulation during analysis processes. This is a one-time requirement and
not a multiple of each data base stored on the hard drive.

Therefore, if the input date base is 1 Mbyte, one worksheet is created, and analysis is performed on the worksheet and the data base, then conservatively, 1 Mbyte for the data base, 1 Mbyte for analysis files, 1 Mbyte for a worksheet, and about 1 Mbyte for indices are required. In addition, 1.5 Mbytes additional storage capacity are required for file manipulation.

In summary, to perform analysis and create all required files and one worksheet, hard disk storage capacity equal to approximately 4 times the size of the input data bases plus 1-1/2 times the size of the largest input data base are required.

OVERVIEW OF PDAT-JA SOFTWARE

Initial Display Screen

Upon invoking PDAT-JA using PD2 or C:\PD2, the title screen appears (see Figure 1).

AUTOMATED POSITION DATA ANALYSIS JOB AID PROTOTYPE SOFTWARE

Version 2.0

Prepared by AXMAN Associates, Silver Spring, MD
Copyright 1990 - 1992

Sponsored by the U. S. Army Research Institute under Contract MDA903-91-D-0053
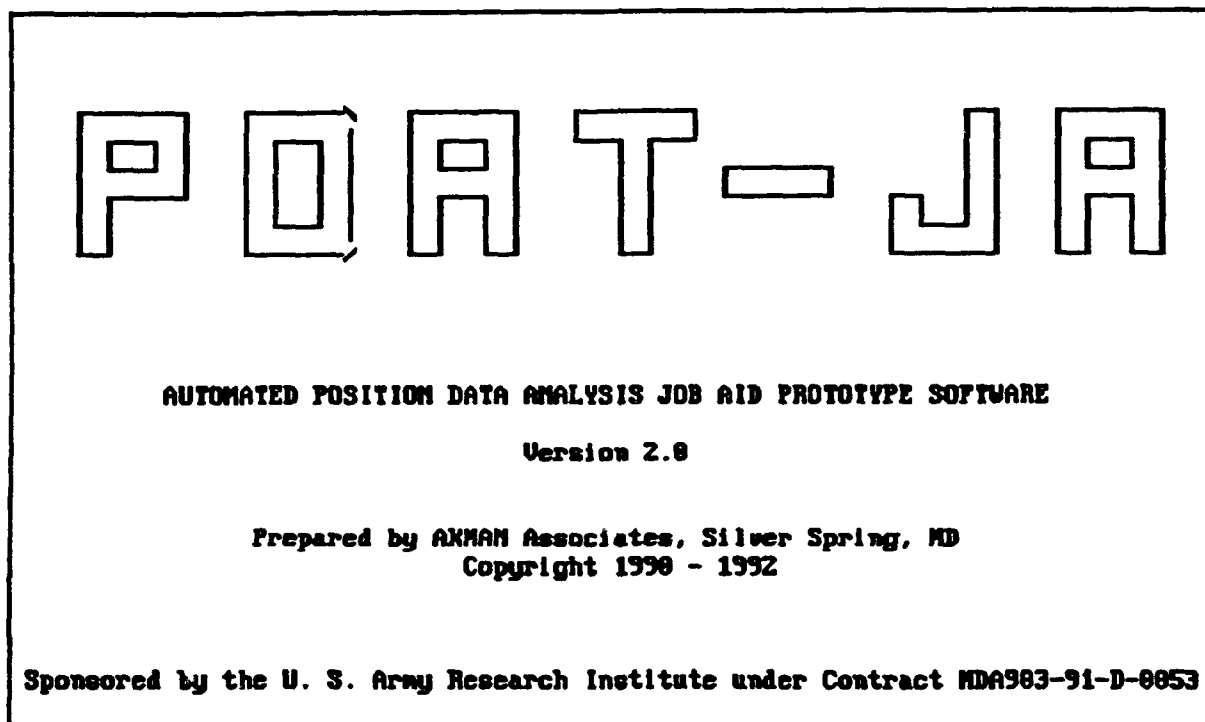
Figure 1. Initial (opening) screen.

This screen appears each time PDAT-JA is invoked. If no key is pressed, the screen remains visible for approximately 8 seconds before the program loads the next screen. The second screen is shown in Figure 2. It is a version summary of capabilities for the PDAT-JA version being loaded. If no key is pressed, the program waits another 8 seconds before loading the main menu screen. If any key is pressed, the main menu screen loads immediately after the key press is sensed.

Figure 2. Version summary.

Main Menu

After a key press or 8 seconds have elapsed, the version summary screen is replaced with the Main Menu Screen. This screen provides access to the six major functions of PDAT-JA. As the user moves from one major function to the next, these functions, located on the top line of the screen, are highlighted, and a brief explanation of the highlighted function is shown on the last line of the screen. Figure 3 illustrates this screen, and in this case, the data base function has been highlighted.

Main Menu Functions

Five major functions (data base, analysis, reports, utilities, and quit) are visible on the top line of the screen. The sixth function, Help, appears in the inset two-thirds of the way down the screen and may be invoked using the F1 function key during most program operations.

Data Base

The Data Base function provides access to the data import and export software modules and typically is the initial starting point of operation when PDAT-JA is first run.

Before any analysis or reports can be created, a subject data base must be imported to the system. The input data base, in standard specified format, resides on a series of diskettes and is imported to the host hard disk using the data import function. During import, the user is prompted to supply

the name of the import data base (file name on diskette) and is given the
opportunity to rename this data base to one of his/her own choice (not usually
necessary). The default name used by PDAT-JA to identify and track the data
base is the first eight characters of the file name on the source diskettes.
If the file name is renamed during import, then PDAT-JA identifies and tracks
the new name.

```
┌─────────────────────────────────────────────────────────────────────┐
│ Data Base    Analysis      Reports     Utilities    Quit    12:56:22 am│
├─────────────────────────────────────────────────────────────────────┤
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│                                                                       │
│              ███████████████████████████████████████████             │
│              █ Press F1 for Help with PDAT-JA software and analysis █ │
│              ███████████████████████████████████████████             │
│                                                                       │
│                                                                       │
│                 Import, merge, export, and maintain data bases        │
└─────────────────────────────────────────────────────────────────────┘
```
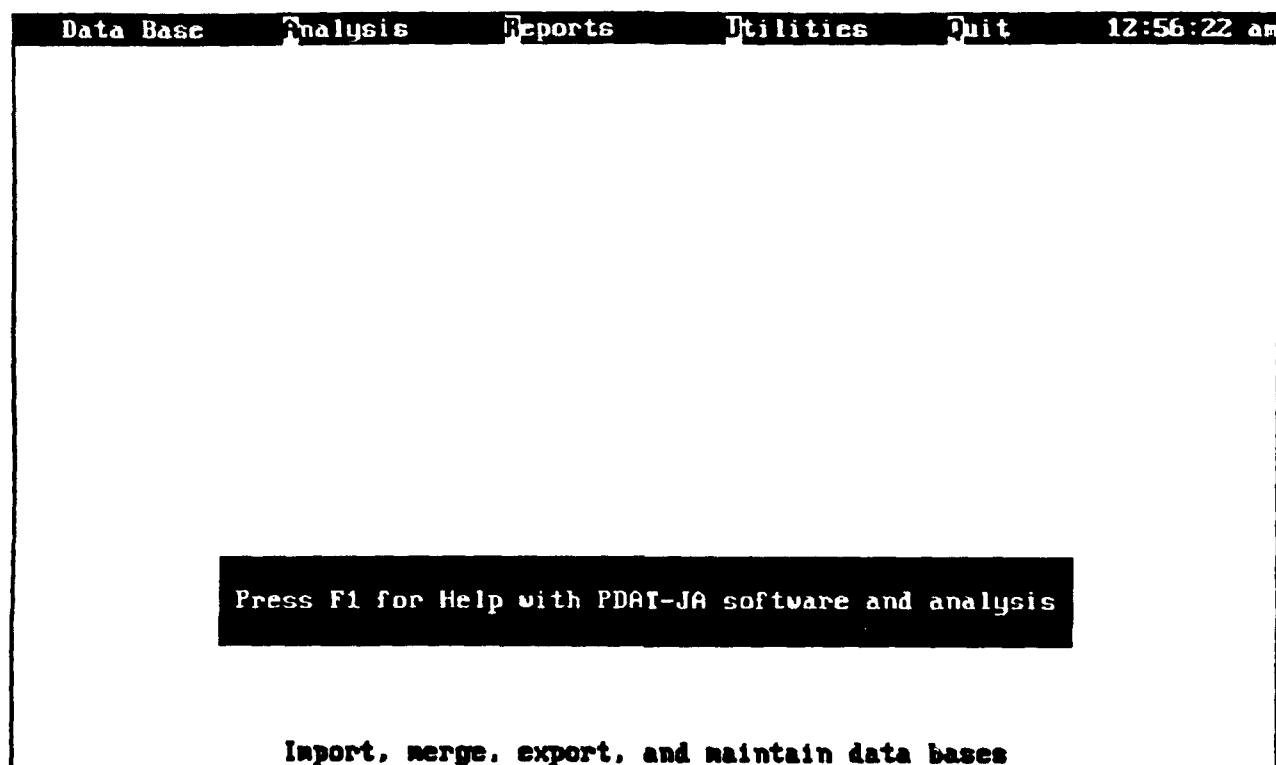
Figure 3. PDAT-JA main menu screen.

During the Import Data function, the data are tested for data base
integrity. Initial data conditioning takes place to remove records containing
blank MOS fields and reserve component positions. TAADS or PMAD data are not
usable by PDAT-JA without first conditioning and formatting them into a PC-
compatible data base structure. The export function provides a means to
output a standard data format (SDF) file. An SDF file is one that contains
fixed length records ending with a carriage return and line feed. This is the
same format as the input data base.

The Import Data with MOS Merge option alters the incoming data
combining as many as nine operator-selected MOSs into one operator-selected
target MOS. Data conditioning after merging is identical to that for the
Import Data function.

During the Import Data and the Import Data with MOS Merge
functions, after initial filtering and conditioning, the user may elect to do
"analysis" of the imported data base. This PDAT-JA "analysis" (as distinct
from analysis subsequently performed by the personnel analyst and described
below) serves to convert TAADS and PMAD data into formats suitable for

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computer processing. For example, all numeric data (such as "number authorized" and "number required"), which exist as character fields (pure text) on the source diskettes, are changed to numeric fields so that these data can be totaled for reports and the user can mathematically manipulate them in his/her worksheets. This "analysis" must be performed before any reports can be generated.

The Data Base function also serves to maintain a data library. This library contains the names of every file generated for analysis, the reference (input data base) name and file names supporting it, all worksheet names, and all analysis file names associated with each worksheet. Provisions are made to allow the user to enter a 70-character description of the associated file and to handle a 3-character identifier (user's initials, etc.). This file is vital to PDAT-JA, since it contains a log of all data bases and indices on the host computer. PDAT-JA uses this data base to present the names of data bases and worksheets in all file selection menus. As an example, if a user wishes to create a worksheet, s/he is presented with a menu showing all available subject data bases and worksheets that may serve as the data source for creation of the desired worksheet. The data for this menu are obtained from the Data Library Data Base.

The Data Base function also provides the means to create and print a data base library report, which shows an inventory of the file names and application residing on the host hard disk and present in the Data Library file itself.

Analysis

The Analysis function is used by the analyst to evaluate MOS positions based on TAADS and PMAD data. The function can be used to create PDAT-JA worksheets, which are replicas of the original data base and which the analyst can modify. The original TAADS and PMAD data bases themselves may not be edited because they are essentially reference information. However, worksheets can be created and edited within the Analysis function and can provide all information about the changes instituted by the analyst. Worksheets also must undergo "analysis", as discussed under the Import function, before their data can be used to produce reports.

GSA is also performed under the Analysis function. GSA applies the AGM against an MOS contained in a data base, or a worksheet, or against data entered manually by the operator, and provides charts, graphic displays, and reports of the level of agreement with the AGM. Note that graphic displays and graphic reports can only be produced for host systems that contain a graphic display card (Hercules, or Hercules clone video adapter, EGA, VGA, CGA graphic displays and adapter cards).

Reports

This function serves to produce reports displaying the results of all the analyses. Eleven reports are available. The first six reports present summary results of important aspects of the subject data base or worksheet. Typically, a report summarizes required and authorized positions by grade and MOS and some third controlling parameter and provides individual subtotals by MOS and a composite total for as many as 10 MOSs contained in the input data base.

Reports subtotal on ASI and MOS, SQI and MOS, MACOM, TOE and TDA, and CONUS versus OCONUS by MOS, and summarized on composite MOSs. Additional analysis of data extracted from these six reports is performed to produce the MOS Profile Report, which is an executive summary of the results of all six analysis reports. The user may elect to display or print these seven reports.

The remaining four reports (PCTAADS versus MPCTAADS Comparative Report, PMAD versus PMADWS Comparative Report, TAADS versus PMAD Comparative Report, and the various data base printouts) are only available in printed format, because the width of a single line (record) greatly exceeds the display width capabilities of display screens. The comparative reports display an original data set as well as any lines which have been modified in the course of analysis. For example, the PCTAADS versus MPCTAADS Comparative Report presents the original data base (reference) information, and that which differs in the selected worksheet (MPCTAADS) on a paragraph-line-by-paragraph-line basis, for any lines that differ in the reference data base and the worksheet. The data base printouts contain all the data in either an original (reference PCTAADS or PCPMAD) or worksheet (MPCTAADS or MPCPMAD) data base. Since any of these reports can be voluminous, the user is given the opportunity to cancel printing by means of the Escape key.

Utilities

The Utilities function provides a mix of a number of DOS command functions. Diskettes for data backup may be formatted within the format menu, without user knowledge of the DOS command switches necessary to select double density or high density 3-1/2-inch and 5-1/4-inch floppy diskettes. Similarly, file backup employs the DOS BACKUP command to menu select backup of data files and indexes, program files, or all files. Purging (permanent erasure) of Reference Data Bases (PCTAADS or PCPMAD) and worksheet (MPCTAADS or MCPMAD) files, and all associated indices and analysis files is also accomplished via the Utilities function.

Quit

This function performs the single task of closing down all files in an orderly manner and returning the user to DOS.

Help

Pressing the Help key (F1) from most operations within PDAT-JA presents a pop-up help window on the screen. Help is organized by topics. The user may select any topic by positioning the cursor on the topic itself and pressing the Enter key. The Ctrl-W key combination or the Escape key is pressed to return from Help. Pressing Ctrl-F10 zooms or explodes the Help window to occupy the full screen as illustrated in Figure 4.

DETAILED DESCRIPTION OF OPERATION

Introduction

This section provides a detailed explanation of the PDAT-JA prototype software and the operating instructions. Once a data base has been imported (Data Base function), basic operation centers around the Analysis and Reports functions. The analyst will most likely do an initial analysis of the whole data base, and then develop one or several worksheets to address those aspects of the data base that are unsatisfactory for the analyst's goals. When work

is completed, or when ending a session, the analyst should use the Utilities function to back up worksheets, and finally execute Quit to exit the session in an orderly manner.

```
 Data Base    Analysis     Reports     Utilities    Quit      7:30:32 pm
                              Help
 ┌─────────────────────────────────────────────────────────────────┐
 │  ANALYSIS OVERVIEW, GSA ANALYSIS                              ▲  │
 │  ANALYSIS OVERVIEW, MPS                                       ♦  │
 │  ANALYSIS OVERVIEW, MPS WORKSHEET                                │
 │  ANALYSIS OVERVIEW, PMAD                                         │
 │  ANALYSIS OVERVIEW, REPORTS                                      │
 │  BACKUP FUNCTIONS                                               │
 │  EXPORT FILE FORMAT                                             │
 │  HARD DISK STORAGE CAPACITY                                     │
 │  HELP ON HELP                                                   │
 │  IMPORT FILE FORMAT                                             │
 │  KEYBOARD ENTRY TIPS                                            │
 │  MAIN MENU, DATA BASE FUNCTIONS                                 │
 │  MAIN MENU, PMAD ANALYSIS/EDITING                               │
 │  MAIN MENU, REPORTS                                           ▼  │
 └─────────────────────────────────────────────────────────────────┘
                          « Help »
```

Figure 4.   PDAT-JA help screen.

As can be seen from Figure 5, the major menu functions (arranged across the screen top line), appear in the same logical sequence used for a typical analysis session.

Data Base

Import Data

In Figure 6, the Import Data function has been exercised.

As shown, the user answers a series of queries before the process continues (see Appendix B). First, the import file name and extension (as they appear on the input diskettes) are entered, followed by source drive and subdirectory. For most floppy diskettes, the source directory is the root directory, whose symbol is the backslash shown. The selection between TAADS and PMAD is used to determine which data base structure PDAT-JA needs to use for the import. The user selects the size of the input diskettes using the space bar (as indicated at screen bottom) to select between 360K, 720K, 1.2M, and 1.4M diskettes. At this point, PDAT-JA does an approximation of the size of the import data base (diskette size x number of diskettes) to determine if the data base will fit on the free space of the hard disk. A warning window appears if there is not sufficient hard disk space to support the data base.

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Figure 5. Available data base functions.

Figure 6. Import data, TAADS data entry screen.

The user can choose to ignore the warning or cancel import and then remove files by exercising the purge old data files options from the Utilities Menu Screen.

The user then supplies the names of as many as 10 MOSs which are used for all future PDAT-JA analysis of the import data base (Data entry fields labeled as MOS No. 1 through MOS 10 on the screen). PDAT-JA also checks the target file name (default is the same as the input file name) against the library of files already present in the PDAT-JA subdirectory. Although the target file name is the same (by default) as the input file, the target file name should be changed to avoid confusion.

If a file with such a name exists, a pop-up window appears informing the user that the target name has already been used, and the display loops back to the target file name field where the user can enter a new target file name.

After the user enters all information, he is prompted to insert the first diskette. The import function then continues by copying all diskettes to a temporary file. The user is prompted each time PDAT-JA is ready for another diskette. After all diskettes have been copied, the software begins its conversion process on the imported data. A few minutes will be required to convert these data, and then the user is prompted with a request to enter a description for the subject data base. The user is cautioned to provide sufficient information to make this entry both descriptive and unique, with the view that this data description is printed on all analysis reports.

The user is also prompted for a USER_ID code. This field accepts as many as four alphanumeric characters that identify the analyst and the data. USER_ID is not a password but a simple means of identifying the user working with this data base or the user who imported this data base. This information is stored in the Data Library Data Base so that it is available for report captions.

As a final step in the Import Data function, an estimate is made of the time necessary to perform "analysis" of the data. This "analysis" extracts all statistical characteristics of the data and conditions and filters the data so that they can be used to produce reports. This is a required step before reports can be generated. Depending upon the size of the input data base and the speed of the host machine, the "analysis" task could take an hour or more. This step may be skipped if time does not permit performance during Import Data and performed under the Analysis function (Process Data for MPS Analysis) at a later time. However, since "analysis" is required before the data may be used in reports, it is best done during the import process.

Operation of the Import Data function differs slightly for PMAD data. Figure 7 shows the PMAD data entry screen. Since PMAD data can only be analyzed for a single MOS (without an MOS merge), the user has only one target MOS to enter. PMAD data contain authorization data for three contiguous fiscal years (see Appendix B). The user is asked to specify the starting fiscal year. PDAT-JA creates report captions for the three fiscal years based on this entry.

```
 Data Base      Analysis      Reports      Utilities      Quit      2:39:51 pm

 1  Import Data
 2  Import Data with MOS Merge
 3  Export Analysis Data
 4  Maintain Data Library
 5  Data Library Report


      Import file name and extension?  ACME3.SDF
                       Source drive?  C
         Complete path including root?  \PDAT-JA
          TAADS or PMAD data (T or P)?  P


           Import to target file named  ACME3A
      Starting Fiscal Year for data is  92
 Candidate MOS for analysis from data set ACME3.SDF is 272




                  Satisfied (Y/N)?  Y
                  Continue (Y/N)?
```

Figure 7. Import data, PMAD data entry screen.

        The Import Data function can import data from either floppy
diskettes or hard disks. The path field holds 30 characters to accommodate
files on subdirectories several layers deep on the source drive. For hard
drive sources, the diskette size entry field and data size limitations
functions are skipped.

Import Data with MOS Merge

        The Import Data with MOS Merge feature allows an operator to merge
many small data sets into one larger one. In addition to merging the data
sets, the basic purpose of this option is to provide a means whereby as many
as nine candidate input source MOSs will be merged by changing their MOS
designator into a single, user-selected output or target MOS. The output or
target MOS can be one of the nine input MOSs or can be a user-selected MOS
which does or does not already exist in the data. Data sets can be imported
from source data contained on floppy diskette and/or present on the hard
drive. Figure 8 shows the data input screen for the initial data set. This
full screen is only needed for the first candidate file for the merge. The
candidate MOSs for merge and the target MOS are selected at this point, along
with the output file name. Once these factors are established, the same
parameter values are used for all remaining data sets merged to this one. For
additional data sets, the operator is prompted for the source file location,
name, and number of diskettes (if drive A or drive B is the source drive) on
the input screen.

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```
 Data Base    Analysis      Reports      Utilities    Quit      5:15:39 am
 ┌──────────────────────────────┐
 │1  Import Data                │
 │2  Import Data with MOS Merge │
 │3  Export Analysis Data       │
 │4  Maintain Data Library      │
 │5  Data Library Report        │
 └──────────────────────────────┘

      Merge source file name and extension? RC014A
                        Source drive? A
   •                    Subdirectory? \
                  Number of diskettes?  1
          TAADS or PMAD data (T or P)? T
              What size are diskettes? 360K
              Merge to target file named RC014A
     Enter up to nine MOS's as merge source MOS's
          MOS #1 25A            MOS #2 25D            MOS #3 25S
          MOS #4 29A            MOS #5 29M            MOS #6 22H
          MOS #7 31V            MOS #8                MOS #9
          Enter target MOS for merge MOS's 99A

                        Continue (Y/N)?
```

Figure 8. Import data with MOS merge data input screen.

All candidate merge data sets are merged in this operation during
one merge session. Once this is concluded, the analyst cannot append any
additional data sets to the merged file. Should s/he elect to use this option
again, s/he will not be able to select the same data base as his/her output
file name but must create a new data set.

The Import Data with MOS Merge feature also contains the same
TAADS pre-processing algorithms used in the Import Data function. Once all
MOSs are combined, the user is given the opportunity to perform this
"analysis" or defer it to a later time.

A very important feature of the Import Data with MOS Merge
function is the manner in which it handles PMAD data. As mentioned, PMAD
analysis can handle three fiscal years' authorizations but only one MOS.
However, using the MOS merge feature, one can merge nine MOSs into a tenth MOS
and process this tenth MOS as a single MOS. Of course, data for each of the
nine MOSs must cover the same fiscal years, but this allows the user to handle
data containing as many as 10 MOSs. More important, by merging the same MOSs
as done in TAADS, the analyst may take advantage of powerful analysis and
reporting techniques present in PDAT-JA to compare PMAD out-year authoriza-
tions with TAADS current authorizations and requirements.

    Export Analysis Data

Both imported data bases (PCTAADS and PCPMAD) and worksheets
(MPCTAADS and MPCPMAD) can be exported. Export uses an SDF structure which is

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```

a data base composed of fixed length records each ending with a carriage
return line feed character pair (see Appendix C).

After selecting the Export Analysis Data function, the user is
presented with a pop-up window that lists candidate data bases and worksheets
by data set number, name, and description as shown in Figure 9.  Once a
candidate data set has been selected, the analyst is presented with a second
screen (see Figure 10).  An empty (formatted) diskette must be inserted in the
selected disk drive so that PDAT-JA can estimate how many diskettes are
required for the export process.

The default output file name is the same as the name of the
selected data set.  It may be changed to any name of the user's choice.  The
extension, however, is fixed and is .TXT, which signifies the SDF
characteristic of the data format.  Since PDAT-JA estimates the required
number of formatted diskettes necessary to hold the data base, the user is
given the chance to cancel if not enough formatted diskettes are available to
complete the export.  Diskettes may be formatted using the Utilities function
available from the main menu screen.

Maintain Data Library

A data library is maintained for all data base, analysis, and
worksheets in the system.  Typically, each PCTAADS data base and every
MPCTAADS worksheet are analyzed.  Analysis produces seven new smaller data
bases and seven indices corresponding to the seven reports for every worksheet
or data base analyzed.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                   Export Database or Worksheet            5:54:19 pm      │
│                                                                           │
│ Data Set  Data Name      Description                                      │
│ ────────  ─────────      ───────────                                      │
│                                                                           │
│        1  RC014998       Army supplied data containing MOS's 25S, 29M, 31Y│
│        2  RC01499S       Database made from smallest diskette of RC014998-MOS's 2│
│        3  MPSWSRJS       Worksheet for complete RC014998                  │
│        4  MPSWSJSS       Worksheet made from the truncated (smallest) set of RC01│
│       12  RC014991       Last disk, only of RC014998 MOS's 25S, 29M, 31Y  │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│                                                                           │
│ Please select the data set number to export or select 0 to cancel  0     │
│                                                                           │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```

Figure 9. Export file candidates.

```
┌─────────────────────────────────────────────────────────────────┐
│ Export Database or Worksheet                          5:55:38 pm  │
│                                                                   │
│   You have chosen to export file RCB14998                         │
│                                                                   │
│   Enter the drive letter of the target floppy drive A:            │
│                                                                   │
│   Enter a blank formatted diskette of the same capacity as will   │
│   be used to hold the export file in drive A:                     │
│                                                                   │
│   Export requires 2 diskettes.                                    │
│   Continue? Y                                                     │
│                                                                   │
│   Target file name? RCB14998                                      │
│   Continue? Y                                                     │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

Figure 10. Data export function data entry and control screen.

        The main features of the Maintain Data Library function are
illustrated in Figure 11. Maintenance includes a bounce bar menu at the
bottom of the screen. The menu captions Next, Prev, First, and Last are used
to move within the library (Next is the next record, Prev is the previous
record, etc.). Edit allows the operator to enter changes or edit a record,
while Append, which is not likely to be needed, allows a record to be added to
the data base.

        Data Library Report

        As Figure 12 shows, only one option is available for the Data
Library Report. This is a recurring option, which appears with every printout
and report menu, and is the caption that appears within a borderless window at
approximately mid-screen. This caption, turn on printer and adjust to top of
form and enter C to continue or Q to quit, provides a pause before printing.
This pause gives the operator the chance to set up the printer properly and to
abort or cancel the printing operation before it is begun. Once committed to
printing, no attempt should be made to cancel the printing operation.
Interruption of printing (pressing Esc, turning off printer, etc.) may cause
the PDAT-JA program to crash. Most reports are two or three pages long and
have a very low density of actual text, so printing is quite fast. Printing
operations that produce lengthy reports, namely, data base reports, provide an
option to allow the user to interrupt printing and to cancel or resume after
the interruption.

```
 Data Base      Analysis      Reports      Utilities      Quit      12:58:25 am
┌─────────────────────────────────┐
│1  Import Data                    │
│2  Import Data with MOS Merge     │
│3  Export Analysis Data           │
│4  Maintain Data Library          │
│5  Data Library Report            │
└─────────────────────────────────┘

   Source Name       PDAT Name       Type          Size          # Records
   ACME3.SDF         ACME3           PMAD          26972           703

   MOS 1 272         MOS 2           MOS 3         MOS 4           MOS 5

   MOS 6             MOS 7           MOS 8         MOS 9           MOS 10

   Description
   MOSs 27B, 27E, 27F, 27G, 27K, 27H, 27J, 27L, 27M, 27Z merged into 27Z

   Work Sheet        User ID         UIC Work Sheet    Updated        FY
                     RJS1                               05/19/92       92


         │ Next │ Prev │ First │ Last │ Edit │ Quit │
```

Figure 11.   Data library maintenance.

```
 Data Base      Analysis      Reports      Utilities      Quit      12:59:17 am
┌─────────────────────────────────┐
│1  Import Data                    │
│2  Import Data with MOS Merge     │
│3  Export Analysis Data           │
│4  Maintain Data Library          │
│5  Data Library Report            │
└─────────────────────────────────┘



              Turn on printer and adjust to top of form.
         ─────────────────────────────────────────────────
              Enter C to continue,          or Q to quit.
```

Figure 12.   Data library report print option.
```

Analysis

The analysis tasks performed under this function are the mainstay of the PDAT-JA software. Worksheets can be created and edited in an advanced screen display, which allows simultaneous viewing of a reference data base and its worksheet used for editing data. The reference data base is never changed. The worksheet is initially an exact replica of the reference data base. The worksheet is the only data base file that is altered by the analyst. Figure 13 shows the pull-down menu for the three Analysis functions.

Create/Edit MPS Worksheets

This option is the function that supports creating and editing all worksheets. Editing takes place in three forms, depending on whether the source is TAADS- or PMAD-derived data.

TAADS-derived data may be edited in either of two modes, one of which is more restrictive (data protective) than the other. In the former or restricted mode, the current authorizations and requirements of MPCTAADS and PCTAADS must remain the same at the paragraph level. PDAT-JA will not permit the analyst to exit an editing session until authorizations have been balanced at the paragraph level. PDAT-JA also monitors grade and skill levels and forces skill levels to match appropriate grades (or vice versa) during editing changes of these fields.

Data Base	Analysis	Reports	Utilities	Quit	9:21:41 pm

```
1  Create/Edit Worksheets
2  Process Data for MPS Analysis
3  Select and Process GSA Data
```

Press F1 for Help with PDAT-JA software and analysis
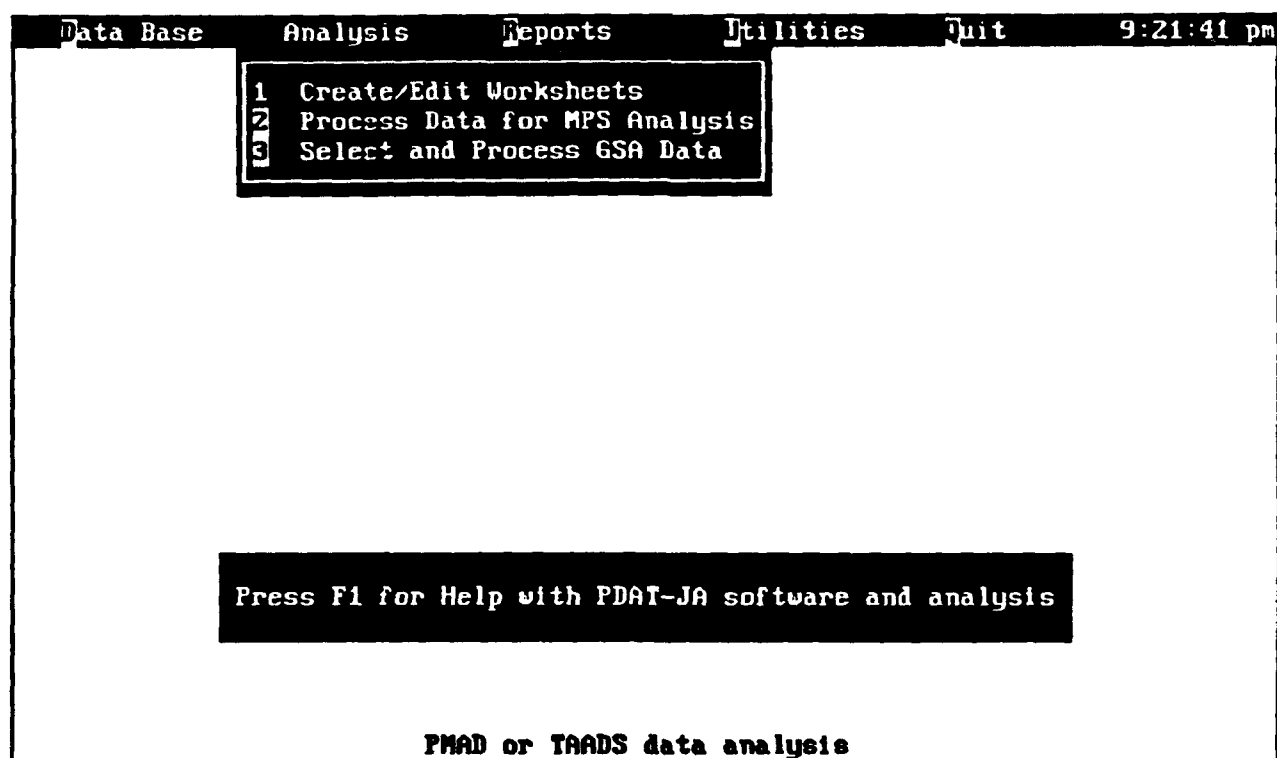
PMAD or TAADS data analysis

Figure 13. Analysis functions.

In the unrestricted mode, PDAT-JA will allow changes in MPCTAADS that do not balance at the paragraph level. The unrestricted mode allows the analyst to avoid the normal checks and balances built into PDAT-JA to expedite his/her analysis. A warning is displayed when the user exits a UIC whose edited totals do not match those of the unedited data set for that UIC, but the user is allowed to exit. This approach, however, provides far more chance for error in the analysis.

PMAD-derived data have only one editing mode, that is, editing is performed on a UIC basis. Although PDAT-JA keeps track of total authorizations per UIC and fiscal year, the analyst can leave or save a worksheet in which changes s/he has made on a UIC level have created a difference between the authorizations indicated in the worksheet and the reference PMAD data base.

As a first step, the analyst is presented with a pop-up window quite similar to the one shown in Figure 9. In this case, the subjects displayed are all worksheets and their descriptions. The user selects the desired worksheet by selecting a number that corresponds to a worksheet or selects the number 0 or 99. Entering a 0 cancels the Create/Edit MPS Worksheet mode and returns the analyst to the main menu.

Entering 99 causes the program to switch modules and begin the worksheet creation process. Here, the user is presented with a pop-up window listing all candidate files that can be used as sources to create the worksheet. The analyst's choice is checked to verify that the entry made matches a possible data source. If the entry number is not acceptable or exceeds the number of records, a pop-up window appears at the upper right area of the screen warning the operator of his/her error. Entering a 0 at this point cancels the create operation and returns the operator to the previous window.

If a legitimate candidate selection is made, PDAT-JA begins creating the worksheet and asks for a three-character unique alphanumeric code to identify the new worksheet. The names of all worksheets start with the prefix MPSWS (for TAADS worksheets) or PMDWS (for PMAD worksheets), and the three-character unique code is appended to this prefix to create the file name.

A different code entry must be made for each worksheet created. Once the worksheet code has been entered, the analyst is queried to supply a 70-character data description of the worksheet for inclusion in the Data Library Data Base. Since this description is included in all analysis reports using this worksheet, the user should provide as much information as is practical to uniquely identify any special factors applicable to this worksheet. Note also that at some later time, the description may be changed, if necessary, under the menu option, Data Base/Maintain Data Library/Edit. Once entry is completed, the analyst is returned to the previous pop-up window, where s/he may again select a candidate worksheet to edit. Now, however, this window also displays the newly created worksheet as an editing candidate.

PCTAADS/MPCTAADS Editing

If the analyst chooses a TAADS-derived worksheet for editing, the message, use unrestricted editing (Y/N)?, appears at the bottom of the screen as shown in Figure 14. The user enters N to select restricted editing (Mode 1) or Y to use the unrestricted editing mode (Mode 2).

```
Select a worksheet from the following worksheet data sets:          12:39:38 pm
WSheet # WS Name      Description
_____      _____

    2   PMDWSRJS      MOSs 27B, 27E, 27F, 27G, 27K, 27H, 27J, 27L, 27M, 27Z me
   11   PMDWSRWS      MOSs 27B, 27E, 27F, 27G, 27K, 27H, 27J, 27L, 27M, 27Z me
   13   MPSWSRS1      MOSs 27B, 27E, 27G, 27H, 27J, 27K, 27L, 27F, 27M, 27Z me












Enter the worksheet number, enter 00 to cancel, or enter 99
to create a new worksheet 13.  Use unrestricted editing (Y/N)? N
```

Figure 14.   Worksheet selection screen showing a TAADS data base selection and
             restricted editing option.

PCTAADS/MPCTAADS Editing: Functions Common to Mode 1 and Mode 2

            After selection of either MPCTAADS editing mode, the screen
is replaced with that shown in Figure 15. This screen is divided into four
distinct areas with UIC at the top, PCTAADS Reference Data Base upper center,
MPCTAADS Worksheet at the lower center, and the bounce bar menu at the bottom.
Data are displayed with a similar hierarchy, that is, the UIC display acts as
a filter, allowing only the paragraphs associated with that UIC to be
displayed in the PCTAADS reference data base area. The reference data base is
second in the display hierarchy and limits data displayed in the MPCTAADS
worksheet to a single paragraph. Therefore, all editing work is performed at
the work center or paragraph level of detail.

            The bounce bar menu is also divided into four distinct
areas. The first area, HEADER DATA, contains captions labeled +, -, NMod,
PMod, Find, and Zero. Negotiation around the menu is accomplished by striking
the keyboard character which is the same as the first character of the menu
option, or by using the cursor arrow keys. "Header data" refers to the UIC
display window. The + and - menu selections page forward and backward among
all the UICs in the reference data base.

```
| Mod |   UIC J0ALAA   Unit Designation USA HQ SOUTH  USARSO      | SRC          |
```

PCTAADS

Para	Ln	Duty Title	GR	MOS	ASI	Reqd	Auth	Paragraph Title
011	01	DCSIM	DAAXMGH	D6	25A00		0	0	OFC OF DCSIM
011	02	DPMS OFF	DAAXMGH	D5	25A00		1	1	OFC OF DCSIM
011	03	PLANS OFF	BAEXMGH	D4	25A00		1	1	OFC OF DCSIM
011	04	CE NCO (TACT)	DAAXMGH	E8	31Z5L		1	1	OFC OF DCSIM
011	05	FREQ MGR	DAAXMGH	E7	91A4O	D9	1	1	OFC OF DCSIM

MPS Worksheet (MPCTAADS)

Para	Ln	Duty Title	GR	MOS	ASI	Reqd	Auth	Paragraph Title
011	01	DCSIM	DAAXMGH	D6	25A00		0	0	OFC OF DCSIM
011	02	DPMS OFF	DAAXMGH	D5	25A00		1	1	OFC OF DCSIM
011	03	PLANS OFF	BAEXMGH	D4	25A00		1	1	OFC OF DCSIM
011	04	CE NCO (TACT)	DAAXMGH	E8	31Z5L		1	1	OFC OF DCSIM
011	05	FREQ MGR	DAAXMGH	E7	91A4O	D9	1	1	OFC OF DCSIM

```
     HEADER DATA              PCTAADS              MPS WORKSHEET
+ - NMod PMod Find Zero         View         Activate WS  Global Replace        Quit
Zero (delete) UIC requirements/authorizations
```

Figure 15. Initial MPCTAADS worksheet pre-edit screen.

Each time a worksheet is edited (values or characters are
changed), the Mod field within the UIC window is updated to place a + within
the field (performed even if the final result does not differ from the
original reference data base). NMod and PMod refer to next modified and
previously modified UICs. Thus, when N is entered by the operator, a search
is performed for the next UIC which has a + in its Mod field indicating that
work has been performed on a paragraph within that UIC. If the search for a
next or previously modified UIC is uns·ccessful (no work done or already at
the first or last modified UIC), a message appears indicating that there are
no more modified UICs.

Find immediately locates a user-supplied UIC. This makes it
easy for the analyst to move among target UICs.

Zero affords the operator the means to zero all
authorizations and requirements for the displayed UIC. Figure 16 shows the
dialogue involved in zeroing these parameters. The zeroing process changes
the requirements and authorizations levels to 0 for that UIC. The change is
reflected in the UIC header data as a "+" appears in the Mod(ification) field
for that UIC. Requirements and authorizations levels for all lines within
that UIC are zeroed in the worksheet (MPCTAADS) and the changes in levels are
reflected in the data displayed. The M field for each of those lines is also
changed to contain a "+" signifying a modification of the line.

```
┌──────────────────────────────────────────────────────────────────────────────┐
│ ┌─────┐ ┌───────────────┐ ┌──────────────────────────────────┐ ┌─────┐        │
│ │Mod  │ │UIC  WOALAA     │ │Unit Designation  USA HQ SOUTH  USARSO│ │SRC │     │ │
│ └─────┘ └───────────────┘ └──────────────────────────────────┘ └─────┘        │
│                                    PCTAADS                                      │
│   Para  Ln   Duty Title              GR MOS    ASI   Reqd   Auth  Paragraph Title│
│                                                                                │
│   011   01   DCSIM         DAAXNGH  06 25A00         0      0  OFC OF DCSIM      │
│   011   02   DPMS OFF      DAAXNGH  05 25A00         1      1  OFC OF DCSIM      │
│   011   03   PLANS OFF     BAEXNGH  04 25A00         1      1  OFC OF DCSIM      │
│   011   04   CE MCD (TACT) DAAXNGH  E8 31Z5L         1      1  OFC OF DCSIM      │
│   011   05   FREQ MGR      DAAXNGH  E7 00A40 D9      1      1  OFC OF DCSIM      │
│                                MPS Worksheet (MPCTAADS)                         │
│   Para  Ln   Duty Title              GR MOS    ASI   Reqd   Auth  Paragraph Title│
│                                                                                │
│   011   01   DCSIM    ┌─────────────────────────────────────────┐ FC OF DCSIM  │
│   011   02   DPMS OFF │Do you wish to zero all authorizations   │ FC OF DCSIM  │
│   011   03   PLANS OFF│and requirements for this UIC (Y/N)? Y   │ FC OF DCSIM  │
│   011   04   CE MCD (T│Last chance!  Proceed (Y/N)?             │ FC OF DCSIM  │
│   011   05   FREQ MGR  └─────────────────────────────────────────┘ OFC OF DCSIM│
│                        DAAXNGH  E7 00A40 D9      1      1  OFC OF DCSIM          │
│   ┌──────────────────┐  ┌─────────┐  ┌───────────────────────────┐   ┌────┐    │
│   │   HEADER DATA    │  │PCTAADS  │  │      MPS WORKSHEET         │   │Quit│    │
│   │+ - Mod PMod Find Zero│ │View   │  │Activate WS  Global Replace│   └────┘    │
│   └──────────────────┘  └─────────┘  └───────────────────────────┘            │
└──────────────────────────────────────────────────────────────────────────────┘
```

Figure 16.   Zero UIC required and authorized fields editing window.

The PCTAADS View menu option activates the reference data base window (see Figure 17) and allows the user to traverse the records within that window.

When the View option is exercised, additional keyboard keys are activated. The active keys are indicated in a line directly over the PCTAADS Reference Data Base window and are

< F3 toggles window, Ctrl-F10 toggles Zoom, F10 ends >

F3 toggles the window between the PCTAADS reference data base and the MPCTAADS worksheet.

Ctrl-F10 (press the Ctrl and the F10 keys simultaneously) toggles the window between its current display and a zoomed or exploded display (see Figure 18) in which the window is expanded to occupy the whole screen. This zoom option allows many more lines to be displayed at one time. In zoom mode, F3, Ctrl-F10, and F10 are still active. Pressing Ctrl-F10 when in zoom mode returns the window to its normal mode.

Figure 17. Activated PCTAADS reference data base window.

Figure 18. Zoomed PCTAADS window.

F10 closes the currently active window and returns the user to the initial worksheet display (see Figure 15).

When the PCTAADS window is active, the analyst may select any line in any paragraph shown within this UIC by using the cursor arrow keys. Selection of a line in a paragraph automatically sets the paragraph, which can be edited in the MPCTAADS worksheet. The analyst can then press F3 and switch or toggle immediately into the MPCTAADS worksheet, or s/he can press F10 and exit to the initial worksheet display. If F10 or F3 is pressed, the PCTAADS window is exited and the MPCTAADS window is updated to display data for the paragraph that was highlighted by the cursor while the PCTAADS window was active. Thus, the cursor position in the PCTAADS window determines which paragraph is displayed and which paragraph may be edited by means of the MPCTAADS window.

The MPS WORKSHEET bounce bar header appearing in Figure 15 includes a Global Replace function. This feature allows the operator to globally change (worksheet encompassing) selected duty titles. Figure 19 depicts the pop-up editing window that appears when this option is activated. Normally, global replacements are made by comparing the old or existing duty title field with the worksheet and changing only those records whose duty title field exactly matches the entered data for the "Old Duty Title" field. However, many times, that field contains right-justified funding data. PDAT will only replace those records whose duty title field exactly matches the entered old duty title. So if that title contains fund''' data, the global replace will be restricted to only records bearing the same duty title description and funding data. Often, this significantly restricts the global nature of the function.

The * character may be employed when performing data entry of the Old Duty Title using the Global Replace function in MPCTAADS worksheet analysis. The * character tells PDAT-JA to ignore any characters in the old duty title description that follow the *. The "*" functions as a "wildcard." Its main task is to circumvent the need to enter matching funding data that may exist within the Duty Title field. By using the * before these data start, the Global Replace command ignores the funding data and changes all records whose description until the * character exactly matches the entered data.

The * may not be employed before the 12th character position of the duty title description. This limitation is purposely employed to prevent the user from accidentally changing all the data globally by placing the * character at the beginning of the description. As shown in Figure 19, a ↓ serves as a reference for the operator and denotes the position of the 12th character on the screen.

PCTAADS/MPCTAADS Mode 1: Restricted (Paragraph-by-Paragraph) Editing

Figure 20 shows the MPCTAADS window activated by selecting activate WS from the display or by pressing F3 to toggle from the PCTAADS window. The figure actually shows the MPCTAADS display window (lower half of screen) in its activated state along with the edit inset. The lower lines of the worksheet display are replaced with a key legend, indicating the functions of the various keys. F3, F10, and Ctrl-F10 activate the same functions as they do in the PCTAADS window.

Figure 19. Global duty title replace editing screen.

When MPCTAADS is activated, F4 invokes the edit inset, which is where all worksheet editing takes place.

F5 and F6 change the active paragraph (next and previous within the UIC). Only one paragraph at a time can be displayed or edited in an MPCTAADS worksheet. This feature is intentional, as a paragraph is the smallest work center considered.

The edit inset is invoked by means of the F4 key. This inset is a pop-up editing window at the top right-hand section of the screen. The top line of the inset indicates which MOSs may be edited. The only ones allowed are those specified at the start of the import procedure. Other MOSs are included in the paragraph for the purpose of completeness and to provide a continuous reference for the analyst. The paragraph title is reproduced on Line 2 for reference purposes also. Changeable (edit) fields are MOS, GRADE, ASI, REQuired, AUTHorized, DUTY TITLE, and LINE number. PDAT-JA provides access only to the primary TAADS ASI if one exists; it does not provide access, account for, or display a second ASI, which may occasionally appear in the LIC field.

```
                                          Available MOS: 25S 29M 31Y
   ┌─────┬─┬──────────┬────────────────┬──────Para Title NODE PLT HQ 11867L
   │ Mod │ │UIC JADTAA│Unit Designation JUUZAR HH
   └─────┴─┴──────────┴────────────────┴─────          MOS 29M10
                                  PCTAADS             Grade E4           ASI U8
     Para Ln  Duty Title          GR MOS   ASI         REQ      2       AUTH      2
                                                  DUTY Title TACTSAT/MICRO-REPA
     188  86  TACTSAT/MICRO-REPA   E4 29M10 U8        Para 188          Line 86

                                                  Unbal (REQ'D 0       AUTH 0    )

                                                     +  -  Add  Delete  Edit  Quit

                                  MPCTAADS
   M Para Ln  Duty Title          GR MOS   ASI  Reqd  Auth  Paragraph Title

     188  81  PLT LDR             02 25C00       1     1  NODE PLT HQ 11867L
     188  82  PLT SGT             E7 31W40       1     1  NODE PLT HQ 11867L
     188  83  LT WHEEL MECH       E4 63B10       1     1  NODE PLT HQ 11867L
     188  84  MGMT SHELTER OP     E4 31F10 V4    1     1  NODE PLT HQ 11867L
     188  85  PWR GEN EQUIP REP   E4 52D10       1     1  NODE PLT HQ 11867L
     188  86  TACTSAT/MICRO-REPA  E4 29M10 U8    2     2  NODE PLT HQ 11867L

   F3 - Toggle Window      F5 - Next paragraph        F18 - End
   F4 - Edit Line          F6 - Previous paragraph    Ctrl-F18 - Toggle zoom
```

Figure 20.   MPCTAADS worksheet window with edit inset.

REQuired and AUTHorized are linked with a running total, which appears just above the inset's bounce bar menu. The user is not permitted to quit a paragraph until Unbal REQ'D and Unbal AUTH both equal zero. A positive balance is indicative of an excess of requirements or authorizations in the paragraph, while a negative balance indicates that the modifications have left the paragraph short of the required or authorized original total. The balance line operates independently for the AUTHorized and the REQuired fields. In addition, the AUTHorized field can never be higher than the REQuired field. If any of the above rules are violated, a warning message within the inset window pops up, indicating which rule was violated.

The bounce bar menu includes +, -, Add, Delete, Edit and Quit. The + and - keys advance the display forward and backward by line number through the paragraph. Add is used to append a new line number. Delete can only be used to delete appended line numbers. For audit trail purposes, Delete will not delete a line number existing in the original reference data base. This feature is implemented so that the comparison report can show all original line numbers and all changes made. Instead of deleting an original line, the analyst may Edit the line to reduce the AUTHorized and the REQuired blocks in that line number to zero. The analyst then Adds as many lines as necessary to establish a zero balance and compensate for the reduced number of personnel in the original line number.

Once any line in the paragraph has been edited, software flags are set to indicate which line number and which UIC have been edited. When the inset is Quit, the UIC window and the MPCTAADS window of the display are updated to contain a plus sign in their modification fields (Mod in the

UIC window and M in the MPCTAADS window). These plus characters indicate which UIC (UIC window), paragraph, and line (MPCTAADS window) have been edited.

Since there is no practical way to determine if an existing line number has had a sequence of editing changes which eventually restore that line to its original state, a flag is set as soon as the line is edited. Thus, it is possible to have a line present in the finished product which is identical to the reference data base but possesses a + in its modification field.

PCTAADS/MPCTAADS Mode 2: Unrestricted (UIC-by-UIC) Editing

As mentioned previously, initial editing functions are identical for both MPCTAADS editing modes, but Mode 2 permits editing without audit checks. As such, this unrestricted mode is probably a faster method of making changes. There are, however, fewer audit checks and therefore more opportunity for analyst error.

Figure 21 shows the MPCTAADS worksheet active. Activation is accomplished from the bottom bounce bar by pressing "A", (A)ctivate worksheet or by pressing "F3-Toggle Window" when the PCTAADS window is active.

The bottom two lines of the display indicate the command hot keys active with this window. These keys are F3, F4, F5, F6, F7, Ctrl-F10, and F10.

F3 - Toggle window

Pressing F3 toggles active window and data scrolling between MPCTAADS worksheet and PCTAADS reference data base.

Figure 21. Worksheet edit, MPCTAADS active (unrestricted mode).

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F4 - Edit line

Pressing the F4 key allows the analyst to edit the currently highlighted line. Figure 22 shows the unrestricted Edit Line, a one-line window that opens at the bottom of the screen overlying the description of the command hot keys. Unrestricted editing occurs in this window. The analyst may change any fields in the line except Para(graph). No edit checks are made. When the analyst is finished changing data in the line, the PgDn key is pressed to save the changes and exit the window. Control transfers to the MPCTAADS worksheet window and the hot key descriptions reappear. The analyst presses the Esc(cape) key if the changes entered in the Edit Line are not to be saved.

F5 - Zero/delete line

When a line is highlighted, the F5 key will delete key data from the line. If the line was one originally present in the worksheet (and hence present in the data base), the line may not be deleted but is required and authorized levels are zeroed. If the line has not previously been edited, the "M" field is changed to a "+" to indicate a change in the original data. If the line has been inserted by the analyst, the "M" field is set to "*" and actually can be deleted. Because of limitations of the FOXPro language, the deleted line may still appear on the screen until the cursor is moved sufficiently to scroll past the entry. To lessen confusion of the analyst regarding the line's actual status and to provide an indication that the line has actually been deleted, all data on the line are changed to blanks as soon as the line is zeroed and the blanks remain as long as the line is still visible on the screen.

| | Mod | ⬩ | UIC | U27PAA | Unit Designation | USA AMSA | | SRC | | |

PCTAADS

Para	Ln	Duty Title	SR	MOS	ASI	Reqd	Auth	Paragraph Title
005G	01	PMSO	FPLK	03	91C51		1	1	PMSO
005G	02	MSL LOG NCO	FPLK	E8	27Z50		1	1	PMSO
131	01	PM ABRAMS	FPSA	06	51D12	42	1	1	PM ABRAMS
131	02	APM M1A2	FPSA	05	51D12	42	1	1	PM ABRAMS
131	03	APM M1A1	FPSA	05	51D11	42	1	1	PM ABRAMS
131	04	R & D COORD	FPSA	04	51D91	4B	1	1	PM ABRAMS

MPCTAADS

M	Para	Ln	Duty Title	SR	MOS	ASI	Reqd	Auth	Paragraph Title
	005G	01	PMSO	FPLK	03	91C51		1	1	PMSO
+	005G	02	MSL LOG NCO	FPLK	E8	27Z50		3	1	PMSO
*	005G	02A	MSL LOG NCO	FPLK	E8	27Z50		0	0	PMSO
	131	01	PM ABRAMS	FPSA	06	51D12	42	1	1	PM ABRAMS
	131	02	APM M1A2	FPSA	05	51D12	42	1	1	PM ABRAMS
	131	03	APM M1A1	FPSA	05	51D11	42	1	1	PM ABRAMS

Edit Line - Press PgDn key when done or Esc to cancel

| * | 005G | 02A | MSL LOG NCO | E7 | 27Z50 | | 0 | 0 | PMSO |

Figure 22. MPCTAADS unrestricted editing, edit line.

F6 - Insert line

Pressing the F6 key inserts a line immediately after the currently highlighted line within the MPCTAADS window. Note. The record (line) that has been inserted has many fields that are not displayed; they are identical to those of the highlighted line. The initial data displayed in the line are identical to those of the line initially highlighted, but the quantity authorized and required are initially zero and the line number has been modified so that its last character is no longer a numeric. An "A" has been appended to the line number. If the last character of the source line number is already an alphabetical character, then the last character of the created line number is advanced by one in the alphabet. Except for the "M"odified field, all displayed fields may be edited.

F7 - Check balance

Pressing the F7 key pops up a window in the upper right-hand corner of the screen which shows the levels of authorized and required personnel on a UIC basis for both the original PCTAADS data and the MPCTAADS worksheet being edited (see Figure 23).

Figure 23. UIC balance status window.

Ctrl-F10 - Zoom

This toggle either explodes the editing window to full screen or implodes full screen editing mode to windows mode. All active editing keys are available in either display mode.

F10 - End

F10 closes the currently active window and returns the user to the initial display.

Create/Edit Worksheets: PMAD Analysis

When the operator selects a worksheet from the selection window, PDAT-JA automatically evokes the PMAD editing module if the selected worksheet is derived from PMAD data. When a PMAD-derived worksheet is selected, the screen clears and is replaced by the initial PMAD worksheet editing screen which is depicted in Figure 24.

Figure 24. Initial PMAD editing screen.

As shown, this screen is divided into four distinct areas, UIC at the top, PMAD reference data base upper center, PMADWS (worksheet) at the lower center, and a bounce bar menu at the bottom. Data are displayed with a hierarchy similar to that for TAADS data, that is, the UIC acts as a filter, allowing only data within that UIC to be displayed in the reference data base area. The PMAD reference data base is second in the display hierarchy and limits data displayed in the PMADWS to the same UIC. Therefore, all PMAD analysis work is performed on the smallest area, the UIC, and the UIC is determined by the PMAD data base and its selected UIC.

Negotiating around this screen and operating the function keys are very similar to the TAADS editing function with no editing constraints (PCTAADS Mode 2). This makes it easy for the analyst to go between these two editing functions.

The bottom bounce bar menu is also divided into four distinct areas. The first area, entitled "HEADER DATA" contains captions labeled "+" "-" "NMod", "PMod", "Find", and "Zero". Moving around the menu is done by striking the keyboard character, which is the same as the first character of the menu option, or by using the cursor arrow keys. The term "HEADER DATA" refers to the UIC display window. The + and - menu selections page forward and backward among all the UICs in the reference data base.

The column (field) labeled "M" is the Mod field. Every field may be changed except the Mod field (done automatically) and the first three characters of the MOB field. Some masking and editing protection is performed to prevent the user from entering numerical data in a character field, and vice versa. Appropriate text format information is forced to upper case characters.

Each time a worksheet is edited (values or characters are changed), the Mod field within the UIC window is updated to place a "+" within the field (performed even if the final result does not differ from the original reference data base). NMod and PMod refer to next modified and previously modified UICs. Thus, when an N is entered by the analyst, a search is performed for the next UIC which has a "+" in its Mod field (indicating that something has been edited within that UIC). If the search for a next or previously modified UIC is unsuccessful (no work done or already at the last or first modified UIC), a warning message appears, indicating that there are no more modified UICs (in that direction).

"Find" immediately finds a user-supplied UIC. This makes it easy for the analyst to move among target UICs.

"Zero" allows the analyst to zero all authorizations for the displayed UIC. The change is reflected in the Mod field by "+" preceding each line in the UIC.

The "PMAD View" menu option activates the PMAD reference data base window and allows the user to traverse the records within that window. When the View option is exercised and therefore active, additional keyboard keys are activated. The activated keys are indicated in a line directly over the PMAD data base and are captioned:

< F3 toggles window, Ctrl-FiO toggle Zoom, FIO ends >

F3 - Toggle window

F3 toggles the window between the PMAD reference data base and the PMAD worksheet.

Ctrl-F10 - Toggle zoom

Ctrl-F10 toggles the window between its current display and a zoomed or exploded display in which the window is expanded to occupy the whole screen. This zoom option allows many more lines to be displayed (in case the UIC is heavily loaded with entries). In zoom mode, F3, Ctrl-FIO, and FIO are still active. Pressing Ctrl-FIO when in zoom mode toggles (returns) the window to its normal (unzoomed) mode.

F10 - End

F10 closes the currently active window and returns to the initial tri-window display.

When the PMAD View window is activated, the analyst may select any line in any paragraph shown within this UIC by using the cursor arrow keys. The analyst can then press F3 and toggle immediately into the PMAD Worksheet, or can elect to press FIO and exit to the initial tri-window display. If F10 or F3 is pressed, the PMAD window is exited, and the PMAD worksheet window is updated to display data for the UIC, which had been highlighted by the cursor while in the PMAD reference data base window.

Entry to the PMAD worksheet area is made by pressing "A", (A)ctivate W8, from the tri-window display, or by pressing F3 to toggle from the PMAD window. As Figure 25 shows, when the PMAD worksheet window is activated, the lower lines of the tri-window display are replaced with a key legend indicating the functions of the various keys. F3, FaO, and Ctrl-FiO perform the same functions as they do in the PMAD window.

Figure 25. Initial activated PMAD worksheet, hot key commands.

F4 - Edit line

Pressing the F4 key allows the analyst to edit the currently highlighted line. Figure 26 shows the Edit Line, a one-line window that opens at the bottom of the screen overlying the description of the hot key commands. Unrestricted editing occurs in this window. Every field may be changed except the Mod field (which PDAT-JA changes automatically when the line is changed)

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and the first three characters of the MOS field. Some masking and editing
protection is performed to prevent the user from entering numerical data in a
character field, and vice versa, and appropriate text format information is
forced to upper case characters.

F5 - Zero/delete line

F5, the delete line key, zeroes a pre-existing line or
deletes an inserted line. PDAT-JA defines a pre-existing line as one that is
present in the original PMAD data, and an inserted line is a line that has
been added by the analyst. The F5 key can only be used to delete appended
lines. For audit trail purposes, the F5 key will not delete a line number
existing in the original reference data base. This is implemented so that the
comparison report can show all original lines and all changes made. Instead
of deleting an original line, the analyst may edit it to reduce the authorized
personnel in that line number to zero by pressing the F5 key. The analyst
then adds as many lines as necessary to establish a zero balance and
compensate for the reduced number of personnel in the original line.

Figure 26. PMAD worksheet, edit line.

F6 - Insert line

When the PMAD worksheet window is active, F4 inserts a line.
The line has the exact characteristics as the line on which the cursor rested
before the user pressed the F4 key. Therefore, the most sensible line to pick
as a source is a line that most closely matches the data the user wants to
enter on the inserted line. By picking a good source line, data entry in the
inserted line can be minimized. An inserted line is added with its Mod field

already set with an "*". The "*" signifies that the line was not originally present within the data base and can therefore be deleted, and also serves to indicate that it is a modified line. Any entry whatsoever by PDAT-JA in the Mod field of the PMAD worksheet display indicates a line that has been modified. Since there is no practical way to determine when an existing line has had a sequence of editing changes that eventually restore that line to its original state, the "Mod" flag is set as soon as any change to the line is made. Thus, it is possible to have a line present in the finished product that is identical to the reference data base but possesses a "+" in its Mod field.

F7 - Check balance

F7 activates a pop-up window in the upper right corner of the screen (see Figure 27) which shows the differences between total authorizations by fiscal year that exist between PMAD and the PMAD worksheet. If the UIC has not been edited, the differences will all be zero. If it has been edited, and the totals by fiscal year for that PMAD worksheet UIC differ from those of the PMAD data, this pop-up shows the numerical differences. A positive balance is indicative of excess personnel in the worksheet, and a negative balance indicates that the modifications have left the worksheet with fewer personnel than authorized in the PMAD data base.

F10 - End (when PMADWS activated)

F10 is used to exit PMAD or PMADWS. The user is permitted to leave the PMAD worksheet in an imbalanced condition by pressing FIO but is reminded of that condition on exit.

Process Data for MOS Profiling (MPS) Analysis

TAADS data, either in the reference data base or in a worksheet, must be processed or analyzed by FOXPro before reports can be produced. As noted in the discussion of the data import functions, the "analysis" can be performed on the reference data base at the time the PCTAADS reference data base is created. If this process is not initiated at that time, the Process Data for MPS Analysis function can be used; this same function must be used to process worksheet data to produce reports.

If the user elected to skip the "analysis" procedure during the Import Data function, or creates and edits a worksheet, a software flag is set within the Data Library Data Base for that particular file. This flag indicates that "analysis" has not been performed and precludes the possibility of printing reports. Since "analysis" of a worksheet must be performed after editing and before printing, it is recommended that each MPCTAADB worksheet be analyzed immediately before printing.

The PDAT-JA "analysis" process creates seven data base files of statistical totals and seven corresponding indices for the designated PCTAADS data base or worksheet. The names of the files and indices are generated by means of a software hexadecimal hook into the system clock. Each name is unique because it is tied to the hexadecimal value of system time to the nearest second. Vital information about these files (file names, source file, and description) are entered automatically into the Data Library Data Base. These seven files provide all information for the Reports function of the software.

```
┌──────────────────────────────────────────────UIC AUTHORIZATION BALANCE STATUS─┐
│ ┌─────┐┌──────────────┐┌────────────┐ ┌──────────┐                            │
│ │Mod •││UIC  WOH9AA    ││FY 92 Total │ 5││FY 93 T│                            │
│ └─────┘└──────────────┘└────────────┘ └──────────┘                            │
│                                  PMAD        FY 92  FY 93  FY 94               │
│                     MOS       │GR│FY 92│   PMAD:    5      5      5            │
│                               ═══════════  PMADUS:  0      0      0            │
│                     272       │E7│  2 │                ───    ───    ───       │
│                     272       │E4│  1 │   BALANCE:    3      3      3          │
│                     272       │ES│  1 │                                       │
│                     272       │ES│  1 │   Warning:  UIC not balanced.         │
│                                                                               │
│                                            Press any key to continue          │
│              PMADUS (PMAD Worksheet)                                          │
│           N│MOS       │GR│FY 92│FY 93│FY 94│                                  │
│           ════════════════════════════════                                    │
│            │272       │E4│  1 │  1 │  1 │                                     │
│            │272       │ES│  1 │  1 │  1 │                                     │
│            │272       │ES│  1 │  1 │  1 │                                     │
│          * │272       │ES│  3 │  3 │  3 │                                     │
│                                                                               │
│ F3-Toggle Window      F5-Zero/delete line    F7-Check balance      F10-End    │
│ F4-Edit line          F6-Insert line         Ctrl•F10-Toggle zoom            │
└───────────────────────────────────────────────────────────────────────────────┘
```

Figure 27. PMAD, balance check window.

As a first step in the MPS "analysis" task, the Data Library Data Base is searched for "analysis" files for the subject worksheet or data base. If they exist, they are erased before the new set is created. Erasure is performed so that obsolete "analysis" files do not accumulate on the hard disk each time a worksheet or data base is analyzed. A worksheet can be edited and changed again and again but must be re-analyzed before a report is printed.

Select and Process GSA Data

The AGM is built into PDAT-JA. This provides a capability to the analyst to apply the AGM distribution to PCTAADS data. Figure 28 depicts the opening screen used to select an existing PCTAADS worksheet or data base as the data source or to select manual (user-supplied) data entry from an external data source.

If existing data are selected (E is entered), a pop-up window appears with a menu selection of all worksheets and data bases on the system. After selection of the candidate data set, the analyst is asked to select a target MOS from the list of as many as 10 MOSs, which were specified during data import. (GSA analysis can only be applied against one MOS at a time.) As soon as the analyst enters his/her selection and indicates that s/he is satisfied with his/her choice, the initial analysis is performed.

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```
 Data Base      Analysis      Reports      Utilities      Quit      10:30:56 am
   •              1  Create/Edit Worksheets
                   2  Process Data for MPS Analysis
                   3  Select and Process GSA Data


        Press E to select data for GSA analysis from an existing worksheet

        or data set, press M for manual entry, or press Enter to abort.
```

Figure 28.   Initial select and process GSA data entry.

   The analyst may need to perform manual entry for data that are not part of the data present on the host system. If so, s/he selects manual (M) entry as shown in Figure 29.

   The analyst then enters a description, which will appear on the report, and when satisfied with data entry, proceeds to the next screen (shown in Figure 30). The data input can be applied against any or all the listed grade levels and should agree with the data source. No adjustments of any the data elements are needed; they should be entered exactly as determined by the external data source.

   Since this is a manual entry screen, the analyst is prompted after data entry with Satisfied (Y/N)? (last screen line) and can repeat data entry until all entry information is correct.

   Once a Y is entered, the program performs the initial phases of analysis and the display then reverts to the standard display presented when using the existing data option for GSA.

   In Figure 31, the lower portion of the display screen presents the results of applying the AGM to the input data total. Application of AGM produces idealized personnel distributions depicted in the row labeled AGM. In the next data row, Current, selected MOS data are provided for reference. The third row, Delta, represents the difference between MOS data and the AGM for the same data total and same grade elements. The lower three lines display the upper 2% deviation band, the current data for reference, and the lower 2% deviation band.

```
┌─────────────────────────────────────────────────────────────────┐
│              Grade Structure Analysis          [10:32:36 an]      │
│                                                                   │
│                                                                   │
│                                                                   │
│    Press E to select data for GSA analysis from an existing worksheet │
│                                                                   │
│    or data set, press M for manual entry, or press Enter to abort. M │
│                                                                   │
│    Enter the MOS which identifies this data 62S                   │
│                                                                   │
│    Enter a description which will appear on the report header     │
│                                                                   │
│    Simulated manual data entry for MOS 62S                        │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                        Satisfied (Y/N)?                           │
└─────────────────────────────────────────────────────────────────┘
```

Figure 29.   Screen depicting manual GSA data entry.

```
┌─────────────────────────────────────────────────────────────────┐
│          Grade Structure Analysis Spreadsheet   [10:33:33 an]     │
│                                                                   │
│                                                                   │
│                 Enter current grade distribution                  │
│                                                                   │
│    ┌────┬────┬────┬────┬────┬────┬────┬──────┐                    │
│    │ E3 │ E4 │ E5 │ E6 │ E7 │ E8 │ E9 │Total │                    │
│    │547 │832 │832 │600 │402 │ 83 │ 41 │ 3337 │                    │
│    └────┴────┴────┴────┴────┴────┴────┴──────┘                    │
│                                                                   │
│                                                                   │
│                                                                   │
│                        Satisfied (Y/N)?                           │
└─────────────────────────────────────────────────────────────────┘
```

Figure 30.   Manual data entry.
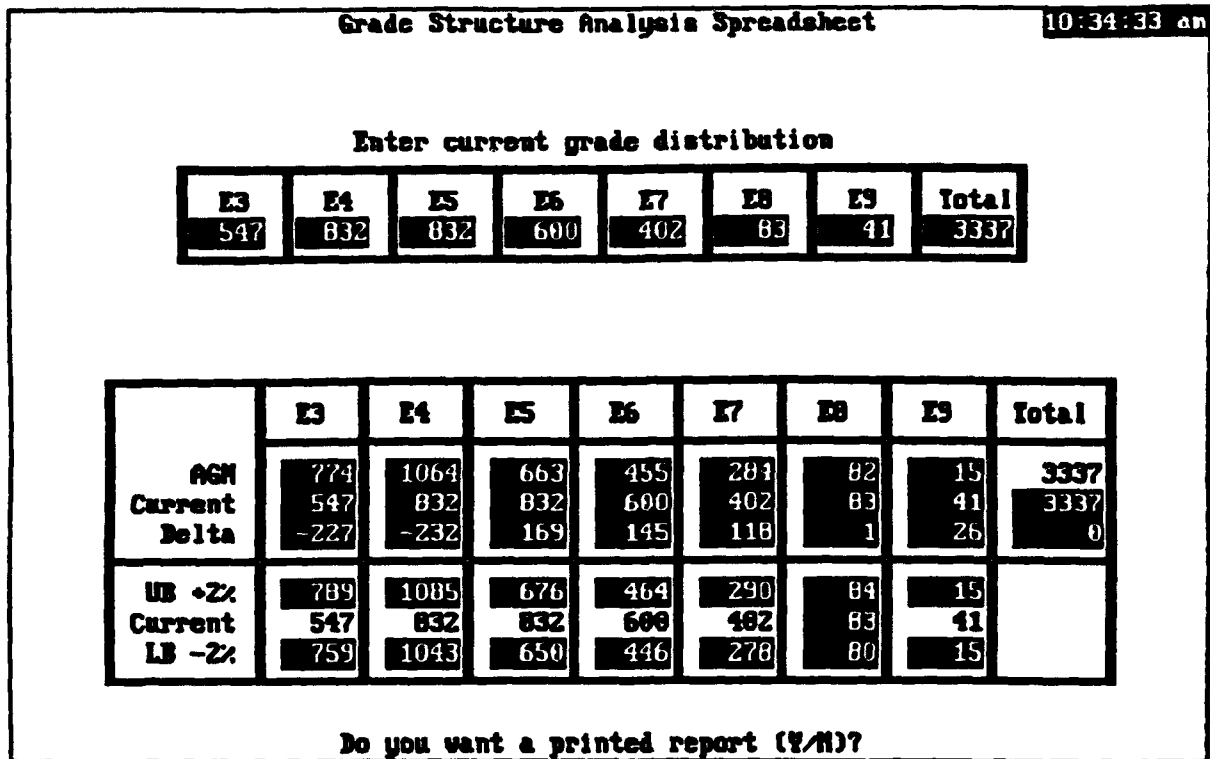
Figure 31. Initial GSA analysis results display screen.

The current row of characters, sandwiched between the upper and lower 2% boundaries, appears color inverted from the rest of the data in the figure. Those values that exceed the 2% boundaries are actually highlighted (yellow on a red background). PDAT-JA automatically flags the data for any grade level that exceeds these boundaries and highlights those data for the screen display. Note that grade E8 is not highlighted because its value is within boundaries.

The bottom line ⌐f Figure 31 depicts a query, Do you want a printed report (Y/N)?. If t⌐e analyst answers "yes", then a second query, Are you using a Hewlett-Packard-compatible laser printer (Y/N)? appears. If an affirmative response is given, then the appropriate commands to set the laser printer to graphics mode are transmitted; otherwise, Epson dot-matrix graphics command codes are sent to set the printer.

Figure 32 is a graphic depiction of the GSA results. This is a clustered bar graph which plots AGM, current MOS data, and their difference in groups of three bars for each grade level. Figure 33 shows the percentage difference between AGM and each grade.

PDAT-JA derives its output for the printer from the actual graphics display shown on the screen. If a low resolution display adapter is present in the host system, the resultant video display and any printouts for this display will also be low resolution. Further discussion of these limitations is given in the section called Analysis Guidelines and Software Implementation.
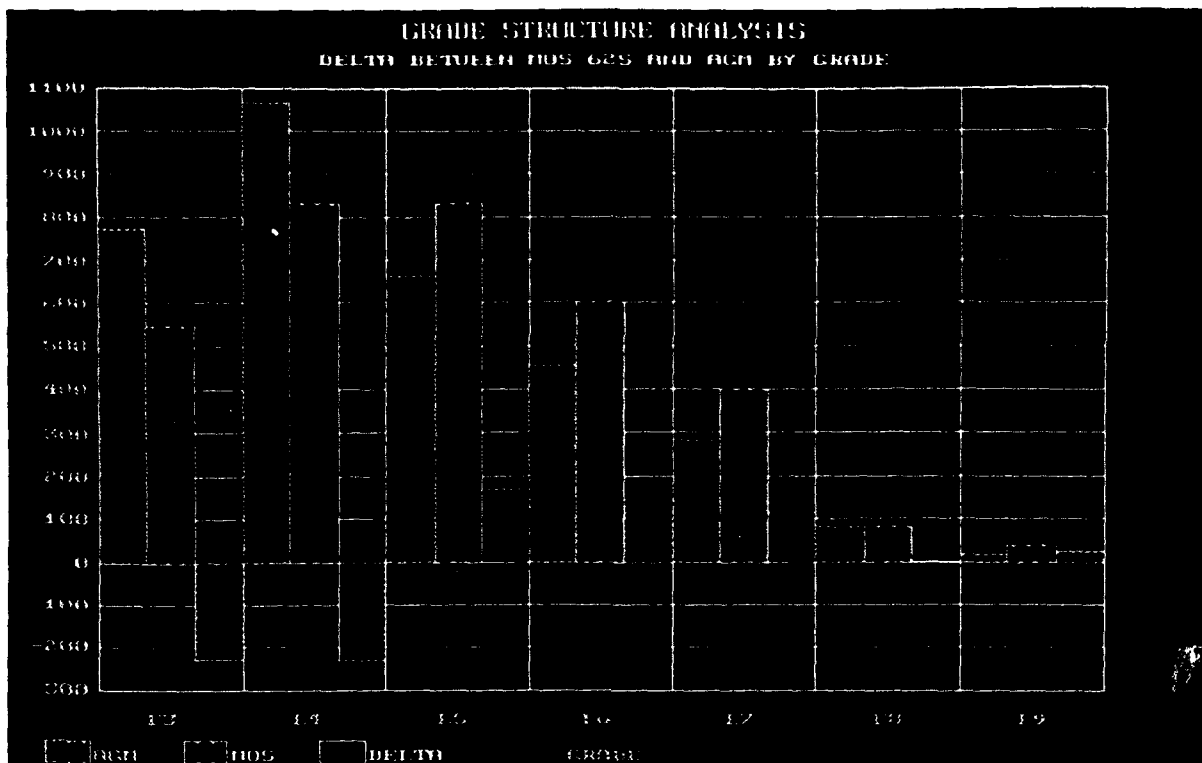
Figure 32. Clustered bar graph of MOSs' contents, calculated AGM, and their difference (delta).
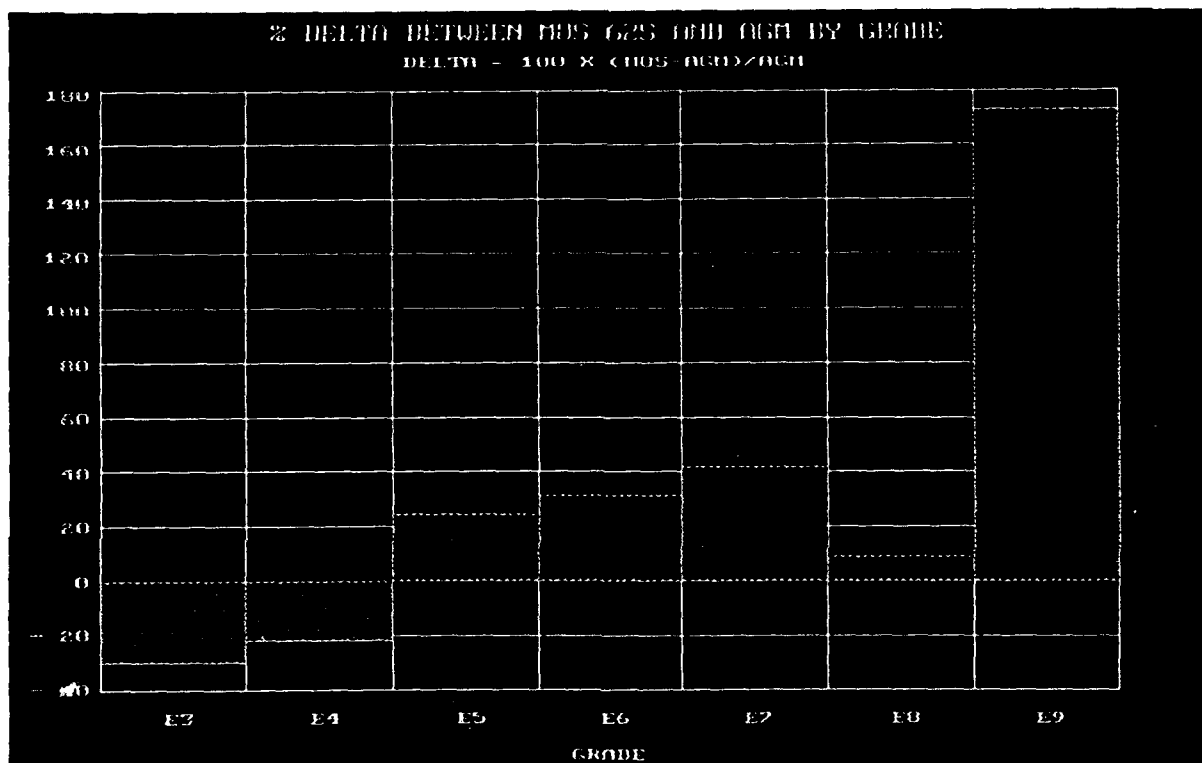
Figure 33. Percent delta between MOS and AGM for each grade.

Both displays are auto-scaled as a function of maximum and minimum data levels, that is, if the magnitude of all the data triples, the vertical height of the bars would stay the same, but the vertical axis labels would be tripled.

The displays are also auto-scaled on their horizontal axes. Thus, if the input data are non-zero, the horizontal axis is scaled based on percent of delta for each grade. The width of each bar is adjusted so that for each non-zero grade cell, the cells are filled to the full horizontal dimension of the graph.

Reports

Figure 34 shows the Reports function main menu. There are 11 reports, 10 of which may be defined as reports in the standard sense. However, the last report is actually a data base printout of any worksheet or data base of any type in the host system.

```
 Data Base      Analysis      Reports      Utilities      Quit      2:36:13 am

                        1  MOS Summary Report
                        2  ASI Summary Report
                        3  SQI Summary Report
                        4  MACOM Summary Report
                        5  TOE versus TDA Summary Report
                        6  CONUS versus OCONUS Summary Report
                        7  MOS Profile Status Report
                        8  PCTAADS v MPCTAADS Comparative Report
                        9  PMAD v PMADWS Comparative Report
                        0  TAADS v PMAD Comparative Report
                        A  Data Base or Worksheet Printout



             Press F1 for Help with PDAT-JA software and analysis



                  Report of MOS authorizations by grade
```

Figure 34.   Report menu selections.

The first seven reports, which are all TAADS oriented, share a common query screen similar to that used for many other functions. A pop-up menu of data bases and worksheets (PCTAADS and MPCTAADS only) is presented and the analyst selects a candidate data set. As many as 10 of the import-specified MOSs can be targeted for inclusion in any of these seven reports. Each of the reports is segmented by MOS and includes a composite summary of results for all MOSs.

The remaining reports share information screens which provide the analyst with the printer setup requirements for each report. This is

necessary because all but the PMAD versus PMADWS Comparative Report require a
printer with a font that has more than 10 characters per inch (CPI) to handle
their data width.   In fact, the PCTAADS versus MPCTAADS Comparative Report is
so wide that it will only print on 15- x 11-inch paper using a dot-matrix
printer operating in compressed font mode.   Reports 8 and 9 (PCTAADS versus
MPCTAADS Comparative Report and PCTAADS or MPCTAADS Data Base Printout)
contain slightly different menus and displays.   Figures 35, 36, 37, and 38
depict these displays.

As depicted in the figures, font requirements range from 10 CPI to 16.67
CPI, depending on the particular format of the report data.   For those fonts
existing on a Hewlett-Packard Laser Printer or Epson dot matrix printer, the
analyst may select an option and have PDAT-JA send the font selection commands
to the printer.   In all cases, an option exists to allow the analyst to make
the font selection manually if his/her printer is not 100% compatible with an
Epson dot matrix printer or a Hewlett-Packard LaserJet Series II or later
printer.

The record width in the remaining reports is between 180 and 210
characters, making them unsuitable for printing on a laser printer using
standard sized paper.   (All of the first seven reports will print on either a
dot matrix or a laser printer without any special provisions required.)

```
┌──────────────────────────────────────────────────────────────────┐
│         Data base/Worksheet Comparative Printout Report   2:47:16 an│
│                                                                    │
│   This option prints all fields of a reference data base and those fields│
│   for its companion MPCTAADS worksheet which have been modified by MPS│
│   Analysis.   Contents of this printout are on a paragraph basis for any│
│   modified paragraph.   Because of record length, this report must be│
│   printed on 15 X 11 inch paper using a 16.7 CPI standard compressed│
│   printer font.   The printer code to select this font mode for an EPSON│
│   and many other printers is ASCII character 15.   The character used to│
│   return the printer to its default (standard) font is ASCII character 18.│
│   If your printer supports these commands, you may proceed without change,│
│   if not, then you will have the opportunity to set your printer to│
│   condensed mode before printing starts.                           │
│                                                                    │
│   A wide-carriage, dot-matrix printer MUST be used to print this report as│
│   LaserJet printers are not presently supported.   Because of its size,│
│   printing may be suspended or cancelled by pressing the Esc key once│
│   printing has commenced.                                          │
│                                                                    │
│   Continue (Y/N)?                                                  │
│                                                                    │
│                                                                    │
└──────────────────────────────────────────────────────────────────┘
```

Figure 35.   Initial printer setup for TAADS/MPCTAADS comparative printout.

```
┌─────────────────────────────────────────────────────────────┐
│        PMAD Data Base/Worksheet Comparative Report   [2:47:54 am]│
│                                                                 │
│   This option prints all fields of a reference data base and those fields│
│   for its companion PMAD worksheet which have been modified by analysis.│
│   Contents of this report are on a UIC basis for any UIC which contains a│
│   modification.                                                 │
│                                                                 │
│   Because of record length, this report must be printed at 12CPI (Elite).│
│   If you are using an HP LaserJet, HP compatible, or an Epson FX│
│   compatible printer, PDAT will send the code to select this font to the│
│   printer.  If the printer you are using does not support this code or│
│   does not have a 12CPI font, you will be given the chance to manually set│
│   your printer to condensed or 12CPI mode before printing starts.│
│                                                                 │
│   Continue (Y/N)?                      ..                        │
│                                                                 │
│                              .                                  │
│                                                                 │
└─────────────────────────────────────────────────────────────┘
```

Figure 36.   Initial printer setup for PMAD/PMADWS comparative printout.

```
┌─────────────────────────────────────────────────────────────┐
│        TAADS/PMAD Data Base/Worksheet Comparative Report  [2:48:54 am]│
│                                                                 │
│   This option performs a comparison of TAADS and PMAD derived data and│
│   reports on differences between the data.  Sources can be either data│
│   bases or worksheets, but must be from both TAADS and PMAD (that is, PMAD│
│   vs PMADWS and PCTAADS v MPCTAADS comparisons are not performed here│
│   because they are performed by other PDAT-JA menu options).  This option│
│   compares TAADS with PMAD (worksheets or data bases).  Contents of this│
│   report are on a UIC basis for any UIC whose authorized levels are not│
│   the same in the TAADS subject as in the PMAD subject.  A two-pass│
│   analysis process is performed to determine which UICs appear in TAADS,│
│   but not in PMAD, and which UICs appear in PMAD but not in TAADS.│
│                                                                 │
│                                                                 │
│   Continue (Y/N)?                                               │
│                                                                 │
│                                                                 │
└─────────────────────────────────────────────────────────────┘
```

Figure 37.   Printer setup for TAADS/PMAD comparative report.

```
┌─────────────────────────────────────────────────────────────┐
│           Data Base/Worksheet Printout Report      2:49:15 an │
│                                                               │
│   This option prints all fields of a PMAD data base or PMADWS worksheet │
│   on standard 8-1/2 x 11 paper.  However, the fields of a TAADS or │
│   MPCTAADS worksheet do not fit on a laser printer.           │
│                                                               │
│   Therefore, all fields of a user-selected TAADS data base or MPCTAADS │
│   worksheet require 15 x 11 inch paper and a 16.7 CPI standard compressed │
│   printer font.  The printer code to select this font or printing mode │
│   for an EPSON and many other wide carriage printers is ASCII character 15. │
│   The character used to return the printer to its default (standard) font │
│   is ASCII character 18.  If your printer supports these commands, you may │
│   proceed without change, if not, then you will be given the opportunity │
│   to manually set the printer to condensed mode before printing starts. │
│                                                               │
│   Because these reports may be quite lengthy, printing may be exited or │
│   cancelled by pressing the Esc key during printing.          │
│                                                               │
│                                                               │
│   Continue (Y/N)?                                             │
│                                                               │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

Figure 38. Printer setup for data base or worksheet output.

        Since a typical data base or worksheet may contain 2,000 or more records
comprising 2 Mbytes, a printout could take 300 or more pages of paper and
require several hours to complete printing (assuming 65 lines per page). The
Escape key is activated for these two reports and may be used to interrupt or
cancel printing. When Esc is pressed, the system continues printing
(formatting and sending data to the printer) until a logical stopping place is
reached. As soon as practical, the message "Cancel Printing (Y/N)?" appears
on the screen, and the printing pause continues until a Yes or No response is
entered. If the cancellation option is selected, no further data are sent to
the printer, and PDAT-JA returns to its main menu. Note that many printers
have an internal hardware buffer memory and may continue printing data from
that buffer long after the computer displays the cancellation message and
stops sending additional data to the printer. Sample reports are provided in
Appendix A of this manual.

Utilities

        The Utilities menu is divided into six functions as shown in Figure 39.
Several of these functions require the use of DOS commands. It is assumed
that the DOS PATH command has been invoked and that the DOS subdirectory is in
the environment path. Access is required to the DOS FORMAT and BACKUP
commands for Utilities 1 through 4. For convenience, PDAT-JA, with the user's
help, sets up the BACKUP file used in Utilities 2 through 4. Since FORMAT is
such a common command, no setup procedure is supplied for it.

```
 Data Base      Analysis      Reports      Utilities      Quit      10:38:30 am
┌─────────────────────────────────────────┬───────────────────────────────┐
│                                          │1  Format Diskettes            │
│                                          │2  Data File Backup            │
│                                          │3  Program File Backup         │
│                                          │4  All File Backup             │
│                                          │5  Purge Old Worksheet         │
│                                          │6  Purge Analysis Data Base    │
│                                          └───────────────────────────────┘
│
│
│
│
│
│
│
│
│
│
│                      Format diskettes for backup
└─────────────────────────────────────────────────────────────────────────┘
```
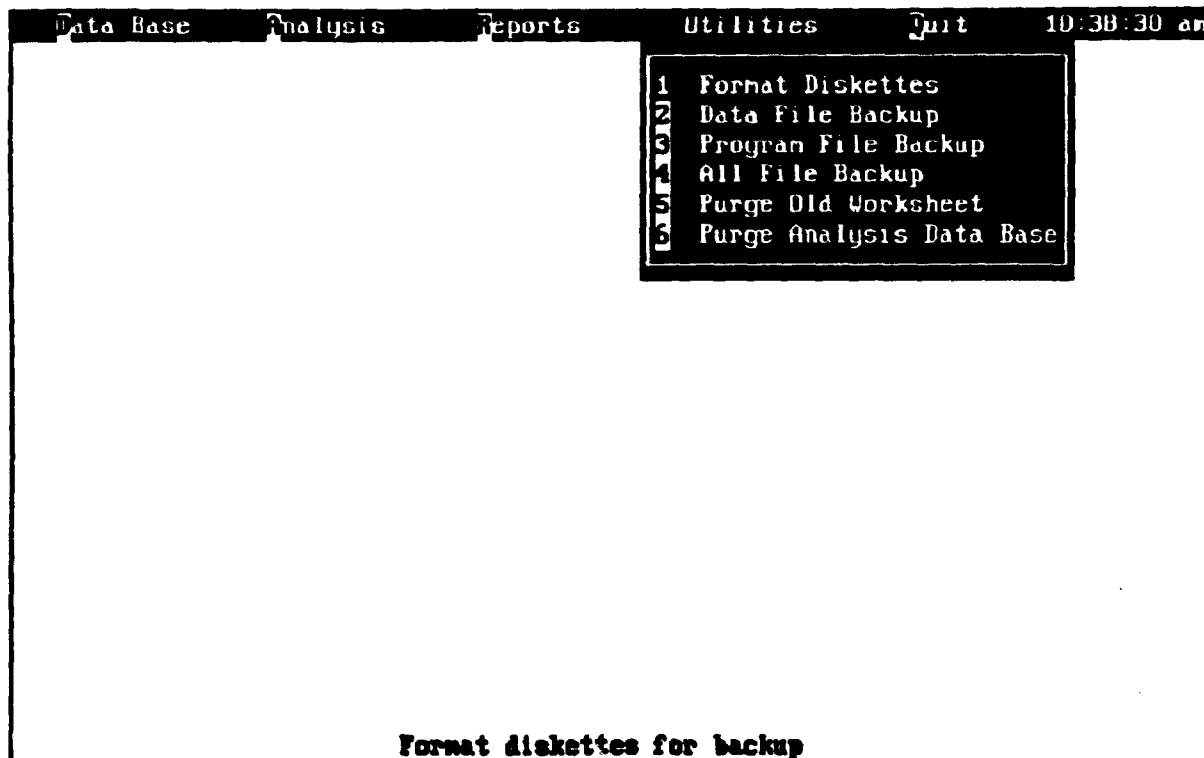
Figure 39.   Utilities main menu.

Format Diskettes Function

        Figure 40 illustrates the Format Diskette menu. This submenu
allows the user to format all standard sized diskettes (in the appropriate
equipment) in either the A: or B: diskette drives. The user can select any
one of the menu options since no media check is made; therefore, it is
important to make the proper selection. After the option is selected, PDAT-JA
calls the DOS FORMAT program which continues the format process. When
formatting is completed, the user is returned to PDAT-JA. If an error is
received (bad command or file not found), the host's PATH statement does not
include a path to the DOS subdirectory.

        If this is the case, then the user can copy the DOS FORMAT.COM or
FORMAT.EXE program from the DOS diskette to the PDAT-JA subdirectory of the
host's hard disk, and PDAT-JA will then be able to use the FORMAT command.

```
 Data Base      Analysis      Reports       Utilities       Quit      10:39:04 am
                                         ┌────────────────────────────────┐
                                         │ 1  Format Diskettes            │
                                         │ 2  Data File Backup            │
                                         │ 3  Program File Backup         │
                  ┌──────── Format Diskettes Menu ────────┐                │
                  │ 1.  Format 1.2Meg Diskette in Drive A: │heet          │
                  │ 2.  Format 360k Diskette in Drive A:   │Data Base      │
                  │ 3.  Format 1.44Meg Diskette in Drive A:│──────────────┘
                  │ 4.  Format 720k Diskette in Drive A:   │
                  │ 5.  Format 1.2Meg Diskette in Drive B: │
                  │ 6.  Format 360k Diskette in Drive B:   │
                  │ 7.  Format 1.44Meg Diskette in Drive B:│
                  │ 8.  Format 720k Diskette in Drive B:   │
                  │ 0.  Quit to Previous Menu              │
                  └────────────────────────────────────────┘
```
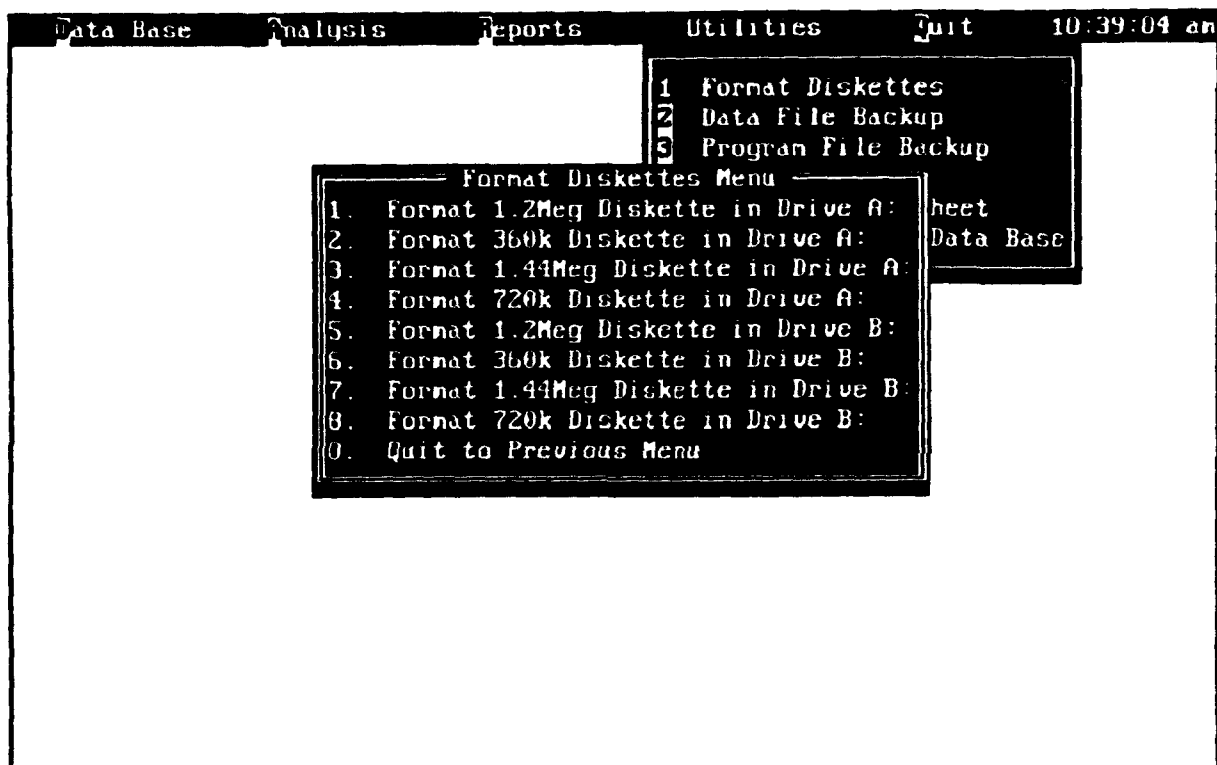
Figure 40.   Format diskettes menu.

Backup Files Functions

Utilities 2, 3, and 4 can be considered together since they all
function in exactly the same manner. Each calls DOS BACKUP which performs the
backup task. Actually, multiple BACKUP calls are made during the backup
operation because each function requires a different list of target backup
files. As an example, the program backup must back up PDAT-JA program files,
Report files, the FOXPro run-time modules, the Help Data Base, the dGE
(graphics) files and fonts. When possible, wild cards are used, but it is
necessary to make multiple backup calls using the /A (append) option. Because
of this and to prevent multiple DOS errors if the backup program is not found,
PDAT-JA requests the location of BACKUP.COM or BACKUP.EXE and stores that
location in a memory variable for all future use. At the user's option,
provision is also made to copy that file to the PDAT-JA subdirectory so that
it is readily accessible.

Purging Functions

Both purging functions perform almost identically. Purging is
used to remove a user-selected file, its index, and all associated analysis
data base and index files from the host hard disk and from the Data Library
Data Base. Purging is the recommended means to make room or clear data from
the hard disk. The initial Purge menu for old worksheets is shown in Figure
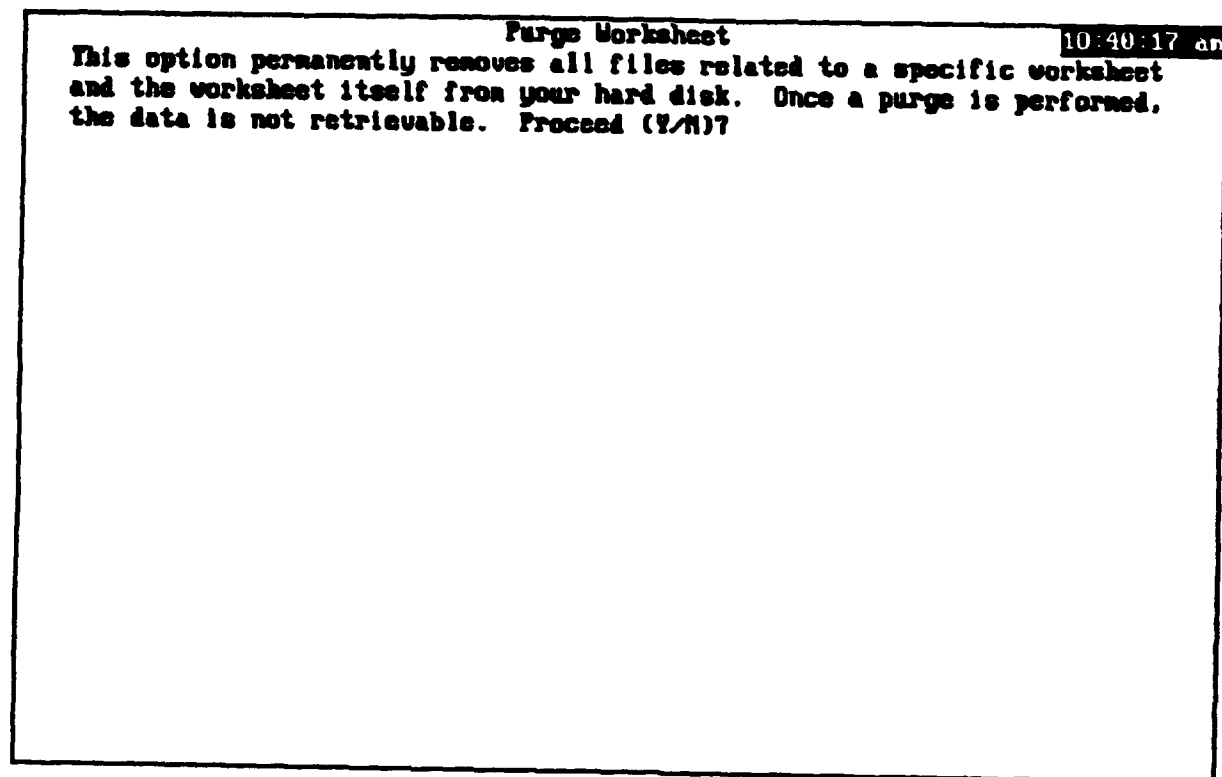41. Figure 42 shows the Purge menu for unneeded data bases.

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```
┌─────────────────────────────────────────────────────────────────┐
│                     Purge Worksheet                  10:40:17 am │
│ This option permanently removes all files related to a specific worksheet │
│ and the worksheet itself from your hard disk.  Once a purge is performed, │
│ the data is not retrievable.  Proceed (Y/N)?                      │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

Figure 41.   Initial purge worksheet entry screen.

```
┌─────────────────────────────────────────────────────────────────┐
│          Purge Data Base and Related Worksheets      10:40:54 am │
│                                                                   │
│ This option permanently removes all files related to a specific data base │
│ including all worksheets and the data base itself from your hard disk. │
│ Once a purge is performed, the data is not retrievable.  Proceed (Y/N)? │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```
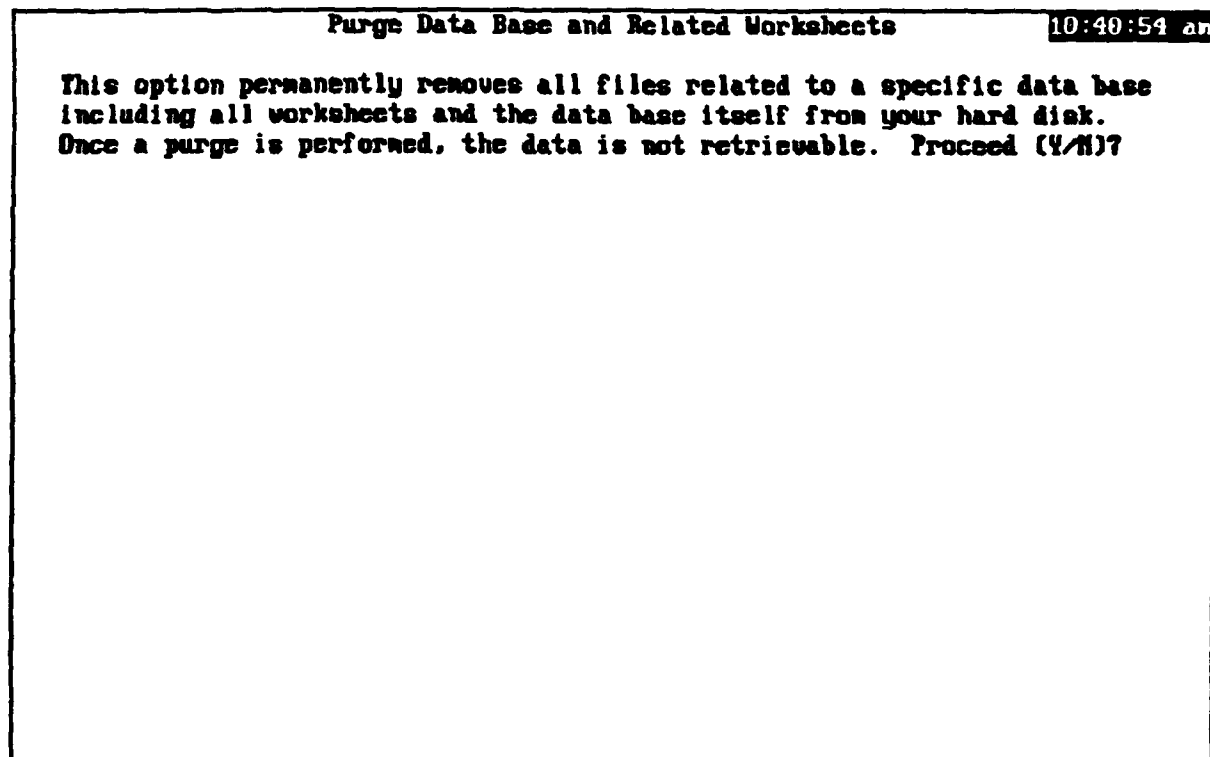
Figure 42.   Initial screen for purging data bases and associated worksheets.

TIPS ABOUT OPERATION

Data Entry and Special Key Manipulation

     PgDn Key

        In any multi-field data input screen, the PgDn key will move to the end of data entry. If you wish to change only the first entry field in such a screen, simply press the PgDn key to take you to the end of data entry. Note that there may be screens whose subsequent fields depend on data values entered for previous fields. Entry screens that have such previous field dependencies may require a subsequent key press of the PgDn key to reach the end of all data entry sequences.

     Cursor Arrow Keys

        During data entry, the cursor arrow keys ($\uparrow$, $\downarrow$, $\leftarrow$, $\rightarrow$) may be used to back up and advance within entry fields and even from entry field to entry field, but care must be taken not to back up past the first data entry field (by using too many key presses of the up arrow or left arrow keys). If the user does back up beyond the first data entry field, PDAT-JA may fail or move ahead to "satisfied? (Y/N)" prompt. If the system does move ahead, respond by pressing N to get back to the data entry field.

     Insert and Type-over Toggle

        The Insert key switches data entry between insert mode (default) and type-over mode. When type-over mode is in effect, the cursor changes from a blinking dash to a large rectangle. Typeover mode can be useful when entering numerical data since the insert mode tends to leave a mixture of old numbers and edited numbers as the final result.

     Escape Key

        PDAT-JA tries to trap the accidental use of the Escape key and to nullify its effects. Because of FOXPro language limitations, however, it is not possible to always trap the key and to completely eliminate its effects. The user is warned that ESC should only be pressed when the screen display suggests its use. The indiscriminate use of the Escape key may cause system failure.

     Caps Lock and Shift Keys

        Most data entry screens force capitalization independent of the Caps Lock key or Shift key position. The exceptions to this are (1) the description field in the Data Library, (2) annotating file information during Import Data, and (3) annotating file information during Worksheet Create tasks.

Negotiating Help

    As the main screen indicates, help about various topics is available by pressing F1. F1 may be pressed at many points in the program, but some entry screens trap key presses and only accept certain key sequences to preserve data entry integrity. Therefore, pressing the F1 key at those times where key strokes are monitored may not always summon help.

The Help screen is a pop-up window that may be negotiated using the up and down arrow keys as well as PgUp and PgDn keys. Help is divided into several topics, and once a specific topic is selected (by highlighting it with the cursor arrow keys and selecting it with the Enter key), a pop-up menu appears at the bottom of the Help window:

"Topic₹i> < Next > and< Previous >.

You may quit Help by pressing Ctrl-w, Ctrl-End, Ctrl-Q, or the Esc key.

Sharing a Hard Disk

In some cases, it may be necessary to share a hard disk among several users. Because of disk space limitations, the user must t₊y to exercise some consideration of his/her work partners. Each worksheet created is the same size as the reference data base. After analysis, each worksheet and associated files are almost twice as big as the reference data base. A user sharing a small hard disk should exercise restraint in the indiscriminate creation of multiple worksheets because all the storage area of the system may be used, thus preventing another worker from entering the system.

Another concern is that if a user decides to purge a data base, all worksheets associated with that data base will be purged. If the host system is being shared among several users, all of whom are using the same reference data base, a purge of the data base by any user will eliminate all worksheets.

A selective backup of one user's data is intentionally not offered in the PDAT-JA system. If each user could back up only his/her own worksheets, it would be possible to overwrite the Data Library Data Base and lose information about all other data bases and worksheets during a DOS RESTORE. Thus, the backup of all data files is required so that a RESTORE (in case of a disk crash) can be made from the latest backup. Additionally, care must be exercised not to employ the DOS RESTORE command using old backup data, or all work after the backup will be lost.

ANALYSIS GUIDELINES AND SOFTWARE IMPLEMENTATION

Grade Restrictions

This software supports active component enlisted grades (E3 through E9) only. Other grades appearing in any paragraph containing a target MOS are used for grading reference and paragraph information completeness purposes only.

MOS Restrictions

PDAT-JA software is designed to handle as many as 10 analysis target MOSs in any input data base. Only those selected when requesting data from HQDA and subsequently identified during file import are supported for analysis. Other MOSs are included for grading reference purposes only.

Input Data Conditioning and Data Transformations

During the data import process, a number of filters eliminate undesirable data. Actual data conditioning takes place in the following order.

• If a record in the data has a blank MOS field, or if the RMK field contains the characters 89, 90, 91, or 92 as the first or third starting characters, or the CMD field (MACOM) is AR, NG, IR, 5R, 6R, ER, or PR (i.e., National Guard and Army Reserve units), the record is deleted and not entered into the system.

• Data in all fields are then left-justified.

• TAADS data are then conditioned further to create a MACOM field. MACOM field data are extracted from CMD field data and conditioned as follows: MACOM is AR for CMD equal to IR, 5R, 6R, ER, or PR; MACOM is El for any data in CMD field whose first letter is E; MACOM is Xl for any field data in CMD whose first letter is X; for all other cases, MACOM=CMD.

Graphic Limitations

The presentation form and resolution of the GSA graphic analysis displays are determined by the hardware characteristics of the graphics display card and display operating mode of the host computer. The quality of graphic printouts cannot be controlled by the user.

GSA printouts formatted for an Epson-compatible printer or for a Hewlett-Packard LaserJet printer are selected at time of display. These printouts are generated by means of a raster scan of the screen display. Thus, if the host system does not support graphics, there can be no graphics display and therefore no output printout. If the host display system supports VGA 640 x 480 display mode (the highest resolution supported by this version of the raster scan), the printouts will have high resolution and the same data and fonts as does the graphics display screen.

Neither software provided printer option supports color printing, and since the display source may be either a Hercules monochrome graphics system, CGA, EGA, or VGA color system, display colors are mapped into their respective displayed crosshatch patterns. These patterns and pattern legend appear on the printouts. If the printouts are of low resolution (caused by the use of EGA or CGA display system), then the only recourse to provide higher resolution printouts is to employ a computer system with a higher resolution capability.

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APPENDIX A

SAMPLE REPORTS

SAMPLE REPORTS

The following pages present sample PDAT-JA reports and printouts. They appear in the following order:

PDAT-JA Prototype Software Data Library
MOS Summary Report
ASI Summary Report
SQI Summary Report
MACOM Summary Report
TOE versus TDA Summary Report
CONUS versus OCONUS Summary Report
MOS Profile Status Report
PCTAADS versus MPCTAADS Comparative Report
PMAD versus PMADWS Comparative Report
PMAD versus TAADS Comparative Report
Data Base or Worksheet Printout.

Other than the comparative reports, each report is self-descriptive. The PCTAADS versus MPCTAADS comparative report is a paragraph-by-paragraph listing of every paragraph that differs in any way in the selected worksheet from the original reference data base. The report is totaled on a per-paragraph basis. When extra line numbers are added in the worksheet, those worksheet lines print without corresponding data lines in the reference (see the next to the last line of the report for an example). As discussed previously, any line that is edited and changed, even though its final values may be the same as its original values, causes the whole paragraph to be flagged, and the contents of that paragraph appear in this report.

The PMAD comparative reports also show the differences between a reference data base (either TAADS or PMADWS) and PMAD. These data are shown at the UIC level.

Note. PDAT-JA does not account for second ASIs that sometimes appear in the TAADS LIC field. Therefore, the ASI counts in the ASI summary report and the MOS profile status report do not include these second ASIs.

```
                   ┌──────────────────────────────────────────┐    Page # 1
                   │   PDAT-JA Prototype Software Data Library  │
                   │                                            │
                   │           Report for 11/07/90              │
                   └──────────────────────────────────────────┘
```

File Name	Type	Size	# of Records	Source File	Last Updated	User ID
RC014990	TAADS	1,319,232	8,506	RC014990.TXT	11/04/90	RJS

  Description: Army supplied data containing MOS's 25S, 29M, 31Y

RC01499S	TAADS	76,597	489	RC014990.TXT	11/03/90	RJS

  Description: Database made from smallest diskette of RC014990-MOS's 25S,29M,

MPSWSRJS	MPSWS	1,319,232	8,506	RC014990	10/31/90	RJS

  Description: Worksheet for complete RC014990

MPSWSJSS	MPSWS	76,597	489	RC014991	11/03/90	JSS

  Description: Worksheet made from the truncated (smallest) set of RC014990

05321E2F	MPSANALRPT1	27,396	233	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS data, Summary of MOS Authorizations by Grade

05321E4B	MPSANALRPT2	44,838	386	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS data, Summary of ASI Authorizations by Grade

05321F02	MPSANALRPT3	58,518	506	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS data, Summary of SQI Authorizations by Grade

05321F23	MPSANALRPT4	92,376	803	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS data, Summary of MACOM Authorizations by Grade

05321F3F	MPSANALRPT5	130,908	1,141	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS data, Summary of TOA/TOE Authorizations by Grade

05321F5A	MPSANALRPT6	39,822	342	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS, Summary of CONUS vs OCONUS Authorizations by Grade

05322011	MPSANALRPT7	2,076	14	MPSWSRJS	10/31/90	PDAT

  Description: PCTAADS, MOS Profile Status Report

RC014991	TAADS	76,597	489	RC014990.TXT	11/07/90	RJS

  Description: Last disk, only of RC014990 MOS's 25S, 29M, 31Y

MOS SUMMARY REPORT

Summary Report of MOS Authorizations by Grade for Selected MOSs   Page:1

Date: 11/07/90
User: RJS
Selected MOS: 25S 29M 31Y
Source: RC014990
Description: Army supplied data containing MOS's 25S, 29M, 31Y

Grade

	E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S								
Required	124	156	69	38	0	0	0	387
Auth	98	132	52	36	0	0	0	318
Delta	-26	-24	-17	-2	0	0	0	-69
MOS: 29M								
Required	86	247	199	124	0	0	0	656
Auth	85	244	193	112	0	0	0	634
Delta	-1	-3	-6	-12	0	0	0	-22
MOS: 31Y								
Required	0	0	0	0	1627	0	0	1627
Auth	0	0	0	0	1536	0	0	1536
Delta	0	0	0	0	-91	0	0	-91

Composite Totals

	E3	E4	E5	E6	E7	E8	E9	Total
Required	210	403	268	162	1627	0	0	2670
Authorized	183	376	245	148	1536	0	0	2488
Delta	-27	-27	-23	-14	-91	0	0	-182

ASI SUMMARY REPORT

Summary Report of ASI Authorizations by Grade for Selected MOSs   Page 1

```
        Date: 11/07/90
        User: RJS
Selected MOS: 25S 29M 31Y
      Source: RC014990
 Description: Army supplied data containing MOS's 25S, 29M, 31Y
```

			Grade						
		E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S	ASI								
	J8	4	10	2	3	0	0	0	19
Total ASI Auth		4	10	2	3	0	0	0	19
Total MOS Auth		98	132	52	36	0	0	0	318
MOS: 29M	ASI								
	D6	7	13	6	4	0	0	0	30
	V8	17	42	34	17	0	0	0	110
Total ASI Auth		24	55	40	21	0	0	0	140
Total MOS Auth		85	244	193	112	0	0	0	634
MOS: 31Y	ASI								
	D6	0	0	0	0	9	0	0	9
	D9	0	0	0	0	53	0	0	53
	F2	0	0	0	0	11	0	0	11
	J7	0	0	0	0	14	0	0	14
	K7	0	0	0	0	164	0	0	164
Total ASI Auth		0	0	0	0	251	0	0	251
Total MOS Auth		0	0	0	0	1536	0	0	1536

Summary Report of SQI Authorizations by Grade for Selected MOSs   Page 1

          Date: 11/07/90
          User: RJS
Selected MOS: 25S 29M 31Y
        Source: RC014990
 Description: Army supplied data containing MOS's 25S, 29M, 31Y

		Grade							
		E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S	SQI								
	F	0	0	2	0	0	0	0	2
	H	0	0	0	14	0	0	0	14
	L	0	1	0	·0	0	0	0	1
	P	14	21	0	0	0	0	0	35
	R	1	1	0	0	0	0	0	2
	X	0	0	0	1	0	0	0	1
Total SQI Auth		15	23	2	15	0	0	0	55
Total MOS Auth		98	132	52	36	0	0	0	318

Summary Report of MACOM Authorizations by Grade for Selected MOSs   Page 1

        Date: 11/07/90
        User: RJS
Selected MOS: 25S 29M 31Y
      Source: RC014990
 Description: Army supplied data containing MOS's 25S, 29M, 31Y

		Grade							
		E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S	MACOM								
	AS	14	16	7	1	0	0	0	38
	CZ	20	27	11	6	0	0	0	64
	DF	0	1	4	3	0	0	0	8
	E1	12	30	19	4	0	0	0	65
	FC	20	18	1	1	0	0	0	40
	HS	2	1	0	0	0	0	0	3
	J1	0	2	1	0	0	0	0	3
	JA	0	0	2	1	0	0	0	3
	MA	0	4	0	1	0	0	0	5
	MD	4	1	1	0	0	0	0	6
	MP	0	0	0	1	0	0	0	1
	P1	3	1	0	0	0	0	0	4
	P8	2	5	2	1	0	0	0	10
	SB	0	0	1	0	0	0	0	1
	SP	8	11	0	0	0	0	0	19
	TC	9	12	3	17	0	0	0	41
	X1	4	3	0	0	0	0	0	7
Total MOS Auth		98	132	52	36	0	0	0	318

Summary of TOE vs. TDA Authorizations by Grade for Selected MOSs   Page 1

```
        Date: 11/07/90
        User: RJS
Selected MOS: 25S 29M 31Y
      Source: RC014990
 Description: Army supplied data containing MOS's 25S, 29M, 31Y
```

	E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S								
SRC:								
05115H	0	1	0	0	0	0	0	1
06602L	1	0	0	0	0	0	0	1
11127H	4	2	0	1	0	0	0	7
11257H	5	8	0	0	0	0	0	13
19500H	0	0	0	0	0	0	0	0
30008H	1	1	1	0	0	0	0	3
30049H	0	0	0	1	0	0	0	1
31803L	5	10	0	0	0	0	0	15
33703L	3	1	0	0	0	0	0	4
34002J	0	2	4	0	0	0	0	6
34028J	1	1	0	0	0	0	0	2
34047J	3	3	0	0	0	0	0	6
34065J	2	1	0	0	0	0	0	3
34067J	2	1	0	0	0	0	0	3
34145J	1	1	0	0	0	0	0	2
34225L	4	4	0	0	0	0	0	8
34245J	3	3	0	0	0	0	0	6
34325L	2	1	0	0	0	0	0	3
34345J	1	1	0	0	0	0	0	2
52002H	2	16	12	2	0	0	0	32
54412H	0	2	2	0	0	0	0	4
Total Auth TOE	40	59	19	4	0	0	0	122
Total Auth TDA	58	73	33	32	0	0	0	196
Total MOS Auth	98	132	52	36	0	0	0	318
Total Male Pos	10	18	0	0	0	0	0	28

Summary of CONUS vs OCONUS Authorizations by Grade for Selected MOSs   Page 1

```
         Date: 11/07/90
         User: RJS
Selected MOS: 25S 29M 31Y
       Source: RC014990
  Description: Army supplied data containing MOS's 25S, 29M, 31Y
```

	Grade							
	E3	E4	E5	E6	E7	E8	E9	Total
MOS: 25S								
Auth CONUS	81	94	30	31	0	0	0	236
Auth OCONUS	17	38	22	5	0	0	0	82
Total MOS Auth	98	132	52	36	0	0	0	318
MOS: 29M								
Auth CONUS	60	152	125	82	0	0	0	419
Auth OCONUS	25	92	68	30	0	0	0	215
Total MOS Auth	85	244	193	112	0	0	0	634
MOS: 31Y								
Auth CONUS	0	0	0	0	1351	0	0	1351
Auth OCONUS	0	0	0	0	185	0	0	185
Total MOS Auth	0	0	0	0	1536	0	0	1536
Composite Totals								
Total MOS Auth	183	376	245	148	1536	0	0	2488

MOS PROFILE STATUS REPORT

Summary of ASI Authorizations for MOSs

```
        Date: 11/07/90
        User: RJS
Selected MOS: 25S 29M 31Y
      Source: RC014990
 Description: Army supplied data containing MOS's 25S, 29M, 31Y
```

PROFILE STATUS REPORT CODES

Level of Concern:
- 0 or not shown – Category meets all policy requirements.
- 1 – Category may cause regulatory or policy impact.
- 2 – Category contains serious regulatory or policy discrepancy.

MOS	ASI	Concern Level	Reason
25S	J8	2	<20 pos. Validate ASI need & confirm <20 weeks training
29M	D6	1	<50 pos. Validate ASI need & confirm <20 weeks training
31Y	D6	2	<20 pos. Validate ASI need & confirm <20 weeks training
31Y	F2	2	<20 pos. Validate ASI need & confirm <20 weeks training
31Y	J7	2	<20 pos. Validate ASI need & confirm <20 weeks training

PMAD VERSUS PMADWS COMPARATIVE REPORT

PMAD Data Base ACME3   PMADWS Worksheet PMDWS27B   Page 1

UIC	MOS	GRADE	FY	FY 1	FY 2	MOD	FY	FY 1	FY 2	MOS	GR
WOH9AA	27B	E7	2	2	2	+	2	2	2	27B	E6
*** UIC Totals:			2	2	2		2	2	2		
WOWFAA	27B	E3	1	1	1	+	2	2	2	27B	E3
WOWFAA	27B	E4	1	1	1	+	1	1	1	27B	E4
WOWFAA	27B	E5	1	1	3	+	1	1	2	27B	E5
WOWFAA	27B	E6	3	3	1	+	2	2	1	27B	E6
*** UIC Totals:			6	6	6		6	6	6		

Note: + = record present in original data base has been edited (even if no changes made).
       * = record added which is not present in source data base.

06/24/92   PMAD versus TAADS Comparison Report   Page 1
for FY 93

PMAD File: 27BACME3   Description:
     FY 93, 94, 95 PMAD DATA FOR MOS 27B

TAADS File: E27   Description:
     MOS 27B TEST DATA

	UIC	E3	E4	E5	E6	E7	E8	E9	Total
PMAD:	WOWFAA	1	1	3	1				6
TAADS:	WOWFAA	1	5	2	1				9
PMAD:	W17MAA				4				4
TAADS:	W17MAA				3				3
PMAD:	W19HAA				6				6
TAADS:	W19HA\				5				5
PMAD:	W1EAAA		2	2	17	39			60
TAADS:	W1EAAA		5	2	23	32			62
PMAD:	W3M0AA				3				3
TAADS:	W3M0AA				2				2
PMAD:	W3MSAA				1				1
TAADS:	NONE								
PMAD:	W3XTAA								
TAADS:	W3XTAA					1			1
PMAD:	W4CUAA					1			1
TAADS:	NONE								
PMAD:	WB7VAA	3	2	3	2	5			15
TAADS:	WB7VAA	4	4	4	3	5			20

PCTAADS OR MPCTAADS DATA BASE PRINTOUT

MACOM SRC	UIC	EDATE UNITDESG	PARA LINE DUTYTITLE	GRADE MOS	BRANCH ID ASI LIC CCMM REQD AUTH RMK	LOC PARATITLE	STATIONAME
E1 43207J	MB2WAA 900917 0057CS CO MAINT SSA	105 03 BASS CPT SYS REP	E3 39D10	I	0290 1 1	C-E MAINT SECTION	GEBLSTDT
E1 43207J	MB2WAA 900917 0057CS CO MAINT SSA	105 04 RADIO REPAIRER	E5 29E20 NC	I	0290 1 1	C-E MAINT SECTION	GEBLSTDT
			Paragraph total:		2 2		
			UIC total:		2 2		
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 01 CCMM MAINT SPT CH	E7 29M40 NC	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 02 BASS CPT SYS REP	E4 39D10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 03 BASS CPT SYS REP	E3 39D10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 04 RADIO REPAIRER	E5 29E20 NC	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 05 FLD COMSEC EQUIP R	E5 29E20 NC	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 06 FLD COMSEC EQUIP R	E4 29E10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 07 TEL CEN OPC REP	E4 29N10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 08 SP DEV REP	E4 39E10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 09 TAC SAT/MWAVE REP	E5 29W20 NC	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 10 TELETYPEWRITER RP	E4 29J10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
E1 43207J	MB3WAA 900917 0178CS CO MAINT SSA	105 11 RADIO REPAIRER	E4 29E10	I	0290 1 1	C-E MAINT SECTION	DEXHIN MI
			Paragraph total:		11 11		
			UIC total:		11 11		
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 22 TELETYPEWRITER RP	E4 29J10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 23 TGT ACQ/SRL RDR RE	E4 39C10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 24 ARTILLERY REPAIRER	E4 45L10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 26 ON & CHEN EQUIP RE	E5 63J20 NC	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 27 CRANE OPERATOR	E5 62T20 NC	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 28 CONST EQUIP REP	E4 62B10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 29 EQUIP REC/PARTS SP	E5 76C20 NC	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 30 FIRE CONTROL SYS R	E4 45G10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 31 FC INSTRUMENT REP	E4 41C10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 32 FUEL & ELECT SYS R	E4 63G10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 33 MAT STOR & HDLG SP	E4 76V10	I	0091 2 2	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 34 PACKING & CRATING	E4 76V10	I	0091 2 2	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 35 ON & CHEN EQUIP RE	E3 63J10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 36 SMALL ARMS REPAIRE	E4 45B10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 37 TANK TURRET REPAIR	E4 45K10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 38 TRACK VEH MECH	E4 63Y10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 39 LT WH VEH MECHANIC	E3 63B10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 40 RECOVERY VEH OPR	E5 63B20 NC	I NB	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 41 ARTILLERY REPAIRER	E3 45L10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 42 TRACK VEH REP	E3 63H10	I	0091 2 2	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 43 CONST EQUIP REP	E3 62B10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 44 FUEL & ELECT SYS R	E3 63G10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 45 MAT STOR & HDLG SP	E3 76V10	I	0091 2 2	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 46 PACKING & CRATING	E3 76V10	I	0091 3 3	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 47 SMALL ARMS REPAIRE	E3 45B10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 48 TANK TURRET REPAIR	E3 45K10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 49 HNE OPR	E3 76V10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 50 PWR-GEN EQUIP REP	E3 52D10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 51 RADIO REPAIRER	E4 29E10	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 52 MAT STOR & HDLG SG	E5 76V20 NC	I	0091 2 2	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 53 SENIOR AUTO REP	E6 63C00 NC	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
E1 4320PL	MB4SAA 910516 0147CS CO MNT HON DIV	151 54 PWR-GEN EQUIP REP	E5 52D20 NC	I	0091 1 1	TM FD COMPOSITE	SCHWEINFT
			Paragraph total:		39 39		
			UIC total:		39 39		

APPENDIX B

INPUT DATA FORMAT REQUIREMENT SPECIFICATION

INPUT DATA FORMAT REQUIREMENT SPECIFICATION

When TAADS or PMAD data are requested from HQDA, the following will ensure the correct data are obtained.

Data Description

Latest approved TAADS and/or PMAD for MOS(s) (1 through 10 enlisted MOSs) in a format and data storage media accessible to an Army standard IBM-compatible personal computer (i.e., DOS American standard code for irformation exchange (ASCII) file on 5-1/4-inch double density diskettes).

Data File Specifications

The import file structure is a standard data format (SDF) file known in the data base community as an SDF file structure. An SDF file structure has fixed length ASCII fields and records, and each record is terminated by a carriage return/line feed pair.

The TAADS data format is as follows:

Field	Field Name	Type	Width
1	SRC	Character	9
2	UIC	Character	6
3	EDATE	Character	6
4	UNITDESG	Character	25
5	PARA	Character	4
6	LINE	Character	3
7	DUTYTITLE	Character	22
8	GRADE	Character	2
9	MOS	Character	5
10	BRANCH	Character	2
11	ID	Character	1
12	ASI	Character	2
13	LIC	Character	2
14	CMD	Character	2
15	CCNUM	Character	4
16	REQD	Character	5
17	AUTH	Character	5
18	RMK	Character	4
19	LOC	Character	3
20	PARATITLE	Character	21
21	STATIONAME	Character	17
** Subtotal **			150
22	Carriage return		1
23	Line feed		1
** Total **			152

The PMAD data format is as follows:

Field	Field Name	Type	Width	
1	UIC	Character	6	
2	MOS	Character	13	
3	GRADE	Character	2	
4	AUSTR1	Numeric	5	(FY authorized strength)
5	AUSTR2	Numeric	5	
6	AUSTR3	Numeric	5	
** Subtotal **			36	
7	Carriage return		1	
8	Line feed		1	
** Total **			38	

Address of Responsible Agency

Commander, U.S. Total Army Personnel Command
ATTN: TAPC-PI-PP
200 Stovall Street
Alexandria, VA 22332-1320

Sample Letter For Requesting Data

On the following page is a sample letter requesting TAADS and PMAD data for use with PDAT-JA.

MEMORANDUM FOR Commander U.S. Total Army Integration Command
                ATTN: TAPC-PI-PP, 200 Stovall Street, Alexandria, VA 22332-1320

SUBJECT: Request for The Army's Authorization Documents System (TAADS) Data
            Information and Data Files

1. The In-Flight Missile Repair School is performing restructuring analysis
    of several MOS.

2. In support of this effort, the following TAADS data are requested:

      a. Latest approved TAADS data files for MOSs 00A, 00B, and 00C
downloaded in an ASCII file on 5-1/4-inch floppy diskettes.

      b. Data File Specifications.

Field	Field Name	Type	Width
1	SRC	Character	9
2	UIC	Character	6
3	EDATE	Character	6
4	UNITDESG	Character	25
5	PARA	Character	4
6	LINE	Character	3
7	DUTYTITLE	Character	22
8	GRADE	Character	2
9	MOS	Character	5
10	BRANCH	Character	2
11	ID	Character	1
12	ASI	Character	2
13	LIC	Character	2
14	CMD	Character	2
15	CCNUM	Character	4
16	REQD	Character	5
17	AUTH	Character	5
18	RMK	Character	4
19	LOC	Character	3
20	PARATITLE	Character	21
21	STATIONAME	Character	17
** Subtotal **			150
22	Carriage return		1
23	Line feed		1
** Total **			152

3. In support of this effort, the following PMAD data are requested:

      a. Latest approved PMAD data files for MOSs 00A, 00B, and 00C
downloaded in an ASCII file on 5-1/4-inch floppy diskettes.

b. Data File Specifications.

Field	Field Name	Type	Width	
1	UIC	Character	6	
2	MOS	Character	13	
3	GRADE	Character	2	
4	AUSTR1	Numeric	5	(FY authorized strength)
5	AUSTR2	Numeric	5	
6	AUSTR3	Numeric	5	
** Subtotal **			36	
7	Carriage return		1	
8	Line feed		1	
** Total **			38	

4. POC for this request is MSG Thompson. If you have any questions, please call DSN 123-4567.

FOR THE COMMANDER

SIGNATURE BLOCK

APPENDIX C

EXPORT FILE DATA FORMAT SPECIFICATION

EXPORT FILE DATA FORMAT SPECIFICATION

PCTAADS and MPCTAADS Export Data File Specifications

PCTAADS data bases and MPCTAADS worksheets have the same export file configurations and formats. Both are SDF with file extensions of .TXT, possessing fixed length ASCII records.

Field Name	Length
SRC	9
UIC	6
EDATE	6
UNITDESG	25
PARA	4
LINE	3
DUTYTITLE	22
GRADE	2
MOS	5
BRANCH	2
ID	1
ASI	2
LIC	2
CMD	2
CCNUM	4
REQD	5
AUTH	5
RMK	4
LOC	3
PARATITLE	21
STATIONAME	17
MACOM	2
** Subtotal **	152 data characters per record
Carriage return	1
Line feed	1
** Total **	154 characters per record

PMAD ana PMADWS Export Data File Specification

Both PMAD data bases and PMADWS worksheets have the same export file configurations. Both are type SDF with file extensions of .TXT, possessing fixed length ASCII records.

Field Name	Length	
UIC	6	
MOS	13	
GRADE	2	
AUSTR1	5	(FY authorized strength)
AUSTR2	5	
AUSTR3	5	
** Subtotal **	36 data characters per record	
Carriage return	1	
Line feed	1	
** Total **	38 characters per record	